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Addresses

C DAY'S CRUSADE AGAINST CONSUMPTION.*

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ophylaxis in pulmonary tuberculosis, that is, its pre-
n, is of such general interest and of such vital im-
ze that the presentation of this subject in a pub-
dress needs no apology. People everywhere are
the preventable character of this disease, and
efore has the interest in this phase of the sub-
n more widespread.

e taking up the subject proper of this paper,
r, I wish to present some interesting figures
he United States Census Reports 11 and 12, and
m certain German reports. In the year 1890, 102,-
people died of consumption in the United States;
proportion of over 12,000 per 100,000 deaths. In
00, 111,059 people died of consumption; a proportion
over 10,000 per 100,000 deaths. It will be seen that
er a hundred thousand lives are lost a year through
s dread disease; or, to put it a little differently, one
ath out of every ten is caused by consumption. In
t, more people die of consumption than of scarlet
er, measles, typhoid fever, diphtheria, whooping
gh and influenza, all together. Fully 80 per cent. of
victims of tuberculosis are in the middle period of
, between the ages of 15 and 50. Let us make a very
servative estimate, which is not as fanciful as it may
n, of the actual loss in cash of this army of sick,
pacitated from earning their daily bread. Putting
average daily wage at 75 cents a day, the loss amounts
$67,000 a day; or reckoning the working year at 300
s, and estimating the individual incapacity as being
six months only, the loss amounts to $10,000,000 a
r. When to this one adds the expenditure necessary
physicians, nursing, medicine and burial, the fig-
s become stupendous.

Cornet of Berlin gives some interesting figures on
berculosis for continental Europe, which it may in-
est you to hear. From 1875 to 1894 the deaths from
berculosis in Prussia alone amounted to 1,669,587
ersons, which is equivalent to the entire population of
Philadelphia. The average is about 80,000 a year. In
Austria, from 1881 to 1892, a period of eleven years,
here were 1,059,300 deaths, or about 90,000 a year.
These figures represent a mortality even greater than
e have in this country.

Tuberculosis is more fatal to humanity than dysentery, cholera or the plague. The ravages of war are insignificant beside it. In the great Franco-Prussian war, according to Prussian statistics, the number of men killed and dying of wounds and disease amounted to 40,951. Twice as many die each year in Prussia of tuberculosis. In our own Civil War there were 70,293 lives lost in battle. This is only a little over half the number dying each year from tuberculosis in this country.

But monstrous as is this showing of the direct ravages of tuberculosis, it is not all nor even the worst half of the picture; for you must know that tuberculosis attacks every organ and tissue of the body and accordingly travels under many other names. For instance, it is called lupus when it attacks the skin; scrofula when it attacks the glands; curvature of the spine, or spinal caries, when it attacks the vertebræ; Pott's disease, when it attacks the hip; white swelling, when it attacks the joints; and so on indefinitely. Who, then, can measure the anguish, poverty, degradation and sin which it causes! Our insane hospitals and orphan asylums, our homes and hospitals for crippled children, our reformatories, prisons and penitentiaries are filled with the indirect results of tuberculosis (Flick).

With such facts and figures before us, there can be little need of discussing the advisability of employing measures to suppress this universal pest. That we should adopt all such measures as lie in our power is a self-evident fact. And when I add that we *can* safeguard against it, and that by certain simple measures we *can* cut down this awful mortality it becomes criminal negligence on our part to neglect them.

The general indications for prophylaxis or prevention in pulmonary tuberculosis may be classified as including two broad aims: first, to destroy the tubercle bacillus and prevent its spread in the dried state; and, second, when once it has gained entrance to the body, to eliminate it as quickly as possible, or inhibit its growth by means of the vital energies (Cornet).

Let us consider, first, the means at our disposal to annihilate the organism. The tubercle bacillus, which is the one and only cause of tuberculosis, is unable, except when cultivated artificially in the laboratory, to increase and multiply outside the body of either human beings or animals. This is partly because it requires high body temperatures, and partly because of its slow growth, as it is crowded out of existence by other micro-organisms which grow more rapidly and luxuriantly. Fresh air and sunlight destroy it. It, therefore, exists among us only from being present in (1) the secretions and excretions of tuberculous human beings, and (2) in the milk and meat of tuberculous animals. The breath of tuberculous patients does not contain the bacilli; it is sterile and harmless.

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* An address given under the auspices of the Henry Phipps Institute, in Carnegie Hall, Pittsburg; and to the students of the Medical Department of the University of Pennsylvania.

The bacillus gains entrance to the human system, first, and most frequently, from tuberculous matter given off by consumptives after it has become dry and pulverized, and the bacilli, diffused in the air, are then either directly inhaled or taken into the gastro-intestinal tract; and, second, from the use of infected meat or milk. Tuberculosis is very rarely transmitted by heredity.

Infection from the use of tuberculous meat or milk is not likely to occur where there is careful inspection of dairies, slaughter houses and herds. It is also guarded against by cooking the food. The great omnipresent danger lies in the inhalation of tubercle bacilli as they float in the atmosphere of contaminated places, halls and rooms of dwelling houses, factories or other poorly ventilated buildings, which have become infected by expectoration of tuberculous material. Other excreta may contain tubercle bacilli. It may be given off from the drying of feces, of pus from areas of tuberculous suppuration, from particles thrown out in the act of coughing; but these are all negligible quantities compared with the all-important source of infection in dried sputum.

Before proceeding, however, with the prophylaxis of the individual, let us for a moment consider the interest of the state in tuberculosis. We have seen from the statistics which have already been given that this matter is of such vital interest and of such widespread importance that, without aid from state and municipal authorities, the profession, even seconded by an intelligent public, is powerless to stop the spread of this scourge. We, therefore, turn, as we have every right to do, to those bodies politic which assure to each and every one of us life, liberty and the pursuit of happiness. The only question to be asked is, How can the state help in this crusade? It can help in three most important and effective ways: (1) By establishing sanatoria for the segregation, treatment and employment of those cases which are too poor or ignorant to take care of themselves and in whose carelessness, squalor and filth lies the chief source of infection. (2) By rendering effective financial assistance to free, private or corporate sanatoria already in existence. (3) By requiring the registration of every case of tuberculosis within its confines.

The state sees and performs wisely its duties in protecting us from the spread of smallpox, scarlet fever, diphtheria, typhoid fever and other contagious diseases, the yearly ravages from which are not individually one-tenth of, and in the aggregate do not equal, the mortality of tuberculosis. Why, then, should it not in certain simple, timely and reasonable ways see its way clear to these more urgent measures. There should exist in all states adequate sanatoria accommodation for the tuberculous poor of the commonwealth. Whether this can best be done by free institutions founded and maintained by the state, or by free private institutions fostered by state aid, is an open matter of dispute. These free sanatoria should be placed in suitable localities in different sections of the state, and should, of course, be under expert medical and sanitary control. There are at present in Pennsylvania, counting city institutions as well as those in the country, at the most 1,000 free beds for consumptives. The present need is for at least five times that number.

One has only to turn to the records of existing sanatoria, of which the free hospital for poor consumptives at White Haven may be taken as a model type, to see the splendid results achieved. Both private and state aid should be freely given to such institutions; f their expenses are always very great. Their cottag and tents are always filled, and they have demonstrate that this is the best and most effective treatment w have to-day for a large class of cases.

In public or state sanatoria, did they but exist, or i free sanatoria supported by private charity, could they b enlarged and given increased means, the afflicted poo who infest our slums and die miserably by the hundred could receive the care and treatment they require. Wha a gain to them! What a gain to humanity a large! It is these overcrowded lodging houses and tenements in the poorer sections of our cities, plague spots which furnish the ever-present foci and source of th disease!

For tuberculosis is pre-eminently a house-bred disease. It is not contagious in the ordinary acceptance o that term. In the vast majority of instances it is contracted from living in a room or a house which has been previously contaminated or is being contaminated i the carelessness of a consumptive. It requires a pr longed exposure for a successful implantation or inoc lation with the tubercle bacillus. There is little if an danger in transient association with consumptives, transient exposure to contaminated places. Physicia are in little or no danger from their examination of an attendance on the tuberculous sick. You can not contract consumption from riding in a street car, nor eve from sleeping a night or two in a berth on a railroa train or boat which has been previously occupied by consumptive. All such ideas of the danger of consumption come of ignorance and exaggeration.

But it is the plague-invested areas of the slums which keep the disease continually alive; the filth and overcrowding, the squalor and starvation, which furnish the fertile soil for the disease. Many of you know, no doub the small tumbledown houses and the dirty tenement in which the really poor live; the cheerless, ill-ventilate rooms, the dark,narrow halls. There was a filthy, contaminated house, not unlike many others, which I happen to recall bcause it was so near the Phipps Institute There were six or eight deaths a year from tuberculosi from this place alone. The average number of occupant to a room was four. I knew of two families of seven in two rooms, five of whom had consumption. How long would it take these five people, even if there were no other cases, to contaminate that whole house! The average length of residence in one place among the poor is about two or three months. How long would it take anyone coming into such quarters to contract the disease! Is it any wonder that with these ever-present foci of infection, tuberculosis numbers its victims by the tens of thousands, and that the ranks of this great army of death are always filled?

The period at which consumptives are most dangerous to their families and to the community is when they are far advanced in the disease and are very ill. Then it is that, while expectorating a great deal, they are too ill or careless to take the precaution of destroying their sputum and so guarding others from its dangers. It is especially at this time that they should be removed from their squalid surroundings and placed in city institutions. Sanatoria are necessarily limited to incipient or moderately advanced cases, which will get better in from three to six months, and they must be supplemented by city hospitals for advanced dying cases.

It is in this latter way that the wards of the Phipps Institute are doing such a great work, not only in arresting the disease in apparently hopeless cases, but in taking these cases away from their filthy surroundings just at the time when they are most dangerous to others.

In this connection dispensaries for out-patients or ambulatory cases should also be mentioned. They, too, are most potent factors in the restriction of the disease, because, aside from the benefit patients receive from treatment in dispensaries (and this is very great), they are also taught how to take care of themselves and protect others from infection.

Finally, just a word about registration. It is absolutely essential for the authorities to know the location and distribution of these cases in order that they may carry out disinfectant measures where such are necessary. It is not with the idea of making outcasts of these afflicted poor, but rather with a view of preventing them from becoming such. These cases among the ignorant should be protected from the isolation and neglect to which an unreasonable fear of their condition often subjects them. Registration would not mean municipal interference with private rights or personal liberty, but would enable urgent measures to be taken to clean and disinfect the houses and localities in which the disease is thickest, and to educate the householders themselves as to the real source of the danger.

Let us now take up the question of private prophylaxis or prevention. The interest or duty of the individual in prophylaxis concerns us even more vitally than the duty of the state in this regard. It is here that each and every one of us has the opportunity, and our duty is plain, to help along this great crusade. The keynote of what I shall say in regard to individual prophylaxis lies in the fact that the tuberculous person is himself the origin and source of the danger, and that it is well within his power, by the exercise of a little care and a few simple rules of hygiene, which will in no way interfere with his comfort, to control absolutely the spread of the disease from himself (Cornet).

As I hinted above, the most important element in private prophylaxis is the absolute destruction of tuberculous sputum. It is absolutely essential that it should not become dry and pulverized, thus permitting the bacilli to be disseminated in the air. Tuberculous sputum is, as a rule, enveloped in a viscid bronchial mucous, which contains the bacilli in enormous numbers and retains them as long as it remains moist. When it dries, however, and becomes pulverized, as is apt to occur when it is expectorated on the floor or into handkerchiefs, or rags, millions and millions of bacilli, death lurking in their presence, are disseminated in the air. The danger from the drying of sputum is much more imminent in closed or poorly ventilated places. The bacilli may be directly inhaled as they float in the atmosphere of the infected room or house, or may settle in the dust to be later stirred up and inhaled or carried directly to the mouth by contaminated hands or food and so ingested into the stomach.

Is it possible to guard against this prolific source of infection? The answer is *yes*, and very simply and easily, viz., the absolute destruction of sputum. This can be accomplished just in one way, by the use of paper spitboxes and paper handkerchiefs. In this way, and only in this way, can the consumptive absolutely control the danger. When indoors, patients should without fail expectorate into these. For the street, they should carry paper handkerchiefs and a small paper bag, into which the former are placed when used, the whole being burned as soon as the house is reached. Subjects of this disease should absolutely avoid spitting into rags or ordinary handkerchiefs, as the sputum dries quickly, and this is not only a source of infection for others, but of reinfection for the patient himself. Inasmuch, too, as during the act of coughing, particles of sputum are thrown forcibly out, a paper handkerchief should always be held over the mouth when coughing.

The use of spittoons should be avoided, because absolute control of the sputum and its sure destruction is not possible under these circumstances. Spittoons lead to carelessness and are very difficult to disinfect. Unless the greatest care is used in burning the contents and the vessel is subsequently sterilized in boiling water, the spittoon is more apt to be a source of menace than of security. Another objection lies in the difficulty of expectorating precisely into a spittoon and not on to the rim or surrounding floor or carpet. One has only to note the condition of cuspidors in public places frequented by men to appreciate the significance of my remarks. Indeed, they are worse than useless and rather predispose to infection than protect against it.

The importance of destroying the sputum can not be exaggerated. Cornet says: "According to my experience, bacilli are found in the immediate environment of consumptives, only in case they make use of handkerchiefs or spit on the floor, and never under other conditions." This is an important statement when one considers that Cornet is one of the greatest authorities in Germany on tuberculosis and was the first to demonstrate the presence of tubercle bacilli in rooms and wards occupied by tuberculous patients. It might interest you to hear how he did this. He placed plates in the places which he had reason to believe were infected, and allowed the dust of the room or factory to settle on them. He then collected this dust and inoculated guinea-pigs with it, with the invariable result that from the dust of infected places the pigs developed tuberculosis and died.

A consumptive's sputum is not only dangerous to others, but to himself. By inhaling fresh tubercle bacilli or swallowing his sputum, fresh foci of infection are set up, on the one hand in the lungs, and on the other in the intestines. He can not be too careful on his own account, and it is a good plan for him to wash his mouth and hands thoroughly before taking food, in order that no stray particle of sputum may be carried into the stomach. On this point Cornet says: "The tuberculous person lives at the center, as it were, of the infectious circle which he himself creates, and so imperils himself more than any other. He really commits a slow suicide by carelessness."

Physicians should discourage the marriage of tuberculous persons. A wife, or child occupying the same room with a tuberculous husband or father, is almost sure to contract the disease. An individual, the subject of tuberculosis, should occupy a room alone.

Physicians and others should wash their hands thoroughly after examining or being about tuberculous patients. Nurses who have to do with these sick can not be too careful not to carry their hands to their lips. It is a good plan when in an infected room or house to breathe as much as possible through the nose.

The bedding, towels and clothing of tuberculous patients should be frequently changed, and when soiled put into boiling water or disinfected by live steam. The vessels of the toilet or table articles should be thoroughly disinfected in boiling water.

The use of disinfectants other than fire, boiling water and steam is unsatisfactory and incomplete. Powdered lye may be used to put on sputum which has been expectorated on the floor. It does not destroy the bacillus, but dissolves and disintegrates the sputum mass and enables it to be taken up with soap and water. The best disinfectant for the hands is soap and water and a stiff scrubbing brush. In a general way it may be said that solutions of carbolic acid or corrosive sublimate are useless for the hands, as they are when applied directly to the sputum. They serve only to incase the bacillus in a firm albumin coagulum from which they eventually emerge on drying as lively as ever. Chlorinated lime and the milk of lime are useful to mix with contaminated excreta, and whitewash is a good disinfectant applied to the walls of a cellar. For the purpose of disinfecting rooms, however, the best agent is, first, thorough cleansing, followed by formaldehyd gas. Formaldehyd in solution, while inferior to lime, is also useful. We are thus reduced, briefly, to the following measures or solutions:

(a) General measures—fire, boiling water, steam, formaldehyd gas; (b) local measures, absolute cleanliness, soap and water, lye, chlorid and milk of lime and formalin.

Bedrooms and sitting rooms should be frequently aired and have all the sunlight possible admitted. They should not be dusted, but the walls and furniture should be wiped down moist. They should not have curtains at the windows, nor unnecessary hangings nor drapery of any kind. The floors should be bare or only covered by rugs, and the windows, except in very cold or wet weather, should be kept open both day and night. A room or house in which a consumptive has lived and died should be disinfected with as much care, according to established methods in such cases, as if he had died of smallpox or diphtheria.

Perhaps it would interest you to hear how we practice prophylaxis at the Phipps Institute. Each patient is given a sputum cup as soon as he enters the hospital and is instructed in the importance of its use. He is also carefully instructed in other details of personal cleanliness. The hospital building itself, floors, walls and stairways from garret to cellar are wiped down every morning with moist mops and cloths. Each bit of furniture and woodwork is treated in the same way, even the doorknobs are not forgotten. All bed linen, towels, wearing apparel after being used are put immediately into large bags and immersed in boiling water.

Not the least part of the prophylaxis relates to the out-patients to the daily clinics. At the first visit of each patient he is given a sputum cup and paper handkerchief and bags for the street. In his history he replies to the following questions: How many persons in the house? How many sleeping rooms? How many beds? Do you sleep alone? Where do you expectorate when home? When in the street? etc. Then he is carefully instructed as to personal cleanliness and the right manner of living.

Subsequently the home of the patient is visited by an inspectress from the institute, who examines into the conditions as they actually exist and makes a report. She reinstructs the patient and his family and posts the rules of the institute on the wall.

In regard to the second indication in prophylaxis as indicated above, i. e., to inhibit the growth and destroy the bacillus after it has gained entrance to the body, by means of stimulating the vital energies, or the natural immunity of the individual, we must here trespass a little on the domain of the cure or treatment. You must know that all animals, including man, enjoy a certain amount of natural immunity against tuberculosis; in other words, have a certain amount of natural resistance against its invasion. If this were not so, many more would have the disease than do, for there can be little doubt that the seed of infection is often sown when it does not thrive. This resistance to infection may be increased or diminished by the circumstances of the patient's life. For instance, confinement and overwork, mental worry or strain, loss of sleep and poor food, all contribute to reduce the natural resistance; while a healthy, out-of-door life, with plenty of fresh air and exercise, long hours of rest and good food, all tend to increase the natural resistance of the organism. It is by the application of this principle in the treatment of tuberculosis that we obtain such happy results to-day. The percentage of cures is much greater than it has ever been before.

Tuberculosis is not, as a rule, hereditary in the sense of being directly transmitted from parent to offspring. Rarely, however, it is congenital through the mother. But, on the contrary, the view held by Dr. Flick is that children of tuberculous parents when born after the parents, one or both, have had the disease, enjoy to a much higher degree this power of resisting the infection than do others. So firm a believer is Dr. Flick in this theory that he says he is always relieved to find such a family history in a patient. In other words, he thinks that you have inherited in your organism and blood a greater resistance if your father or mother or your grandfather or grandmother have had consumption before you. The reason why children of tuberculous parents so often develop the disease and die is that throughout their early childhood they are subject to such a constant source of infection in their homes.

You will reply that even when taken from home and the environment of their parents early and brought up elsewhere such children frequently die of consumption. This is true, but the answer is that they have been infected early, not with the disease itself, but with the cause of it, the tubercle bacillus; and have carried in their bodies for years, frequently in tuberculous retroperitoneal or bronchial lymph glands, the germ of the disease. This has only awaited a favorable opportunity to break forth and infect the lungs through the lymph channels or the blood. Such an opportunity is furnished by ill health, or a bad cold, an attack of the grippe or pneumonia, and eventually they perish.

RECAPITULATION.

Let me, then, briefly recapitulate and I am through. The most general and fatal disease of mankind is tuberculosis (consumption). One-tenth of all people fall victims to it. In America alone over 110,000 people die of it annually. The disease originates through the inspiration or ingestion of the germ of the disease, the tubercle bacillus. Infection usually occurs through the sputum, which contains millions and millions of these bacilli. It is only dangerous when it dries and becomes pulverized and the bacilli are thus disseminated in the air. This most frequently happens when it is spit on the floor or into handkerchiefs. The drying of sputum is a source of danger not only to those who come in contact with consumptives, but also to the invalids themselves, as they are apt to reinhale or reingest the bacteria which they themselves have expectorated and thus infect portions of the lungs or other tissues which were previously healthy. Public measures for the restriction and prevention of tuberculosis are:

1. The establishment of free sanatoria in the country

for the treatment of incipient and moderately advanced cases, and also farms for convalescents.

2. The establishment of city hospitals for the treatment of advanced cases in the wards, and of dispensaries for ambulatory cases.

3. Registration of all cases and thorough disinfection of all houses in which tuberculosis has occurred.

4. Government inspection of dairies, slaughter houses and herds.

5. The organization of societies for the prevention of tuberculosis.

Measures for the prophylaxis of the individual are:

1. The absolute control and destruction of the sputum. This can only be done if the patient spits into paper spitboxes or paper napkins, which are subsequently burned. Spittoons should not be used.

2. Care and cleanliness in the home, in respect of dust and dirt, and in disinfection of articles contaminated by use.

3. Tuberculous persons should sleep alone. The room should have no unnecessary drapery or furniture and the windows should be kept open both night and day.

Personal prophylaxis is inspired by the fact that the consumptive, if scrupulously clean, is not a source of danger even to his immediate environment. If the above directions in regard to sputum are strictly observed, association with consumptives and the care of them is ordinarily without danger (Cornet).

In conclusion, permit me a word of exhortation. There is nothing done without faith, and you must have faith that these things are so, and that the end for which we are striving will be brought about. Remember that it is not a lost cause or a forlorn hope I am offering you. This is a scourge which can be practically eradicated. Believe me, that time will come.

The bloody war in Manchuria is only more terrible in idea and not in fact. The tens of thousands of human beings given over to slaughter for cause which few of them understood is only more appalling in its barbarity and its futility. But here is a grand cause in which you may all fight without injury to yourselves or loss of life, where you may display a greater and a grander heroism, and where the end and reward is a priceless heritage to yourselves, your children and humanity forever. The civilized world to-day stands aghast at the welter of blood in the far east. At our very doors is a greater depth, whose victims are as a hundred to one, which decimates humanity year by year and century after century.

1404 Spruce Street.

LED ASTRAY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON PHARMACOLOGY, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, ORE., JULY 11-14, 1905.

HEINRICH STERN, M.D.

NEW YORK.

A cat, who had lived for years with a family and was beloved by it, on one of his nightly strolls, met an owl. "Oh, bird of wisdom," exclaimed the cat, "how I wish that I had some of your learning! I pray you take me with you on your explorations and be my instructor." "Hoot, hoot," answered the owl; "and what will be my reward?" "I will give you all the mice that I catch," responded the cat, "and I am deemed an able hunter."

From that time on the cat accompanied the owl, sat at its feet and listened to its wise sayings. But with the newly acquired wisdom the cat grew arrogant; his former associations, his simple life, the fireside where he had so long been welcomed, the gentle care of the housewife, were forgotten by him or disdained.

"I am no longer your pupil, owl," said the cat; "learning has made me your equal; take me into the midst of your wise consorts." "Ta, ta," sneered the owl, flapping his wings; "my consorts can fly; can you?" And away he flew.

The disconsolate cat wearily wended his way back to his old home, but the housewife did not recognize him, and at his place on the hearth another cat was warming himself. Left without a home and without companions, the old cat sighed: "Oh, what avail is my wisdom now?"

The moral of this fable in its relation to medicine of to-day is pertinent. In the cat, before he strayed, we may recognize the medical practitioner of old, beloved by his patients who admired his unflinching devotion to his vocation. The owl, the personification of learning, lures the practitioner from well-trodden paths of duty and leads him astray into unexplored regions. There the old ties which bound him so lovingly are sundered, he loses his identity and henceforth must walk apart. He occupies an isolated position now; the old associations are discarded, and when he yearns to take up his duties of yore he must see, to his chagrin, that his place at the hearth of family affection is occupied by a stranger. Thus he strays aimlessly about, disdainfully regarding humble efforts of others, blaming fate for his misfortunes and failing to see in his shortsightedness that he himself is the cause of his passing. He ascribes his political impotence to social ostracism, and his financial débacle to an overcrowded profession, to the proliferation of healing sects, to the craze of self-medication and to a score of other causes, while in reality he is the author of his own ill-fortune, because he has ceased to be a true physician.

The one who addresses you has always worked in the scientific field; he has for years maintained his own laboratories for biologico-chemical study, and he is now the head of an institute for medical research in the city of New York. With all unbiased experimenters he deeply deplores the trend of modern pathology and the meager, definite and employable data furnished to practical medicine by the laboratory. He has no delusions as to the "science of medicine;" he knows that it is still unborn. Moreover, he is aware that medicine, devoid of its religious, mystic, philosophic, sophistic and so-termed scientific embellishments, resolves itself into the art of recognizing disease, predicting its course and ameliorating its various symptoms. Medicine is an art requiring no innate talent and differing from painting and sculpturing inasmuch as it demands no creative force, but may be acquired and practiced by any one possessing clear understanding and common sense. Firstly and lastly, the object of the healing art should be the alleviation of the physical and mental distress of the patient—the true physician is the comforter of the patient. The prognosis takes the second place in practical medicine—the patient and his family are anxious to learn what course the disease will run and how much hope there is for recovery. Thirdly, the diagnosis follows. The least important in practical medicine is the pathology, for which the patient evinces hardly any interest. The patient is really only concerned about the treatment and speedy recovery. How his disease is termed and of what nature the pathologic processes are that take place, these are questions which the patient, as a rule, considers only when the treatment has proved of no avail. To make a correct diagnosis, of course, requires not a little proficiency, and to this fact, no doubt, the widespread customary expression "the science of diagnosis" may be ascribed. But in all earnestness is it not at least as much an art as a science to recognize a disease? Is it not in most instances the personal experience, bedside experience, by which we differentiate the many symptoms and recognize the disease? Take it all in all, how rarely does the general practitioner resort to test tube and microscope, and still, if he be a master in the art of observation, he will know whether he is dealing with a case of typhoid fever or gastric ulcer or pneumonia.

While diagnostics have taught us many new forms of disease and the discrimination of the various forms, it offers no enlightenment as to the causes and conditions which give rise to a symptom-complex, except perhaps those of infectious diseases.

Again, two physicians may have gone through the same course of instruction; they may have seen an equal number of patients affected with similar diseases; they may both be equally well versed in the system of recognized diagnostic principles, but one may be endowed with a finer touch, with a finer ear and a keener perception—faculties which make the artist. He thus becomes a more clever diagnostician. He is the greater artist of the two.

Even the foremost of diagnosticians would not claim that his special branch was a perfect science. He is fully aware how much depends on the personal equation. He has very little real use for one-sided laboratory diagnosis, and only in doubtful and disputed cases will he accept the verdict of the fledgling of the laboratory. He is the artist and is, therefore, impressed with his own importance. He surpasses his colleague, not on account of his greater learning, but through his greater skill, the result of his finer sensory perceptions. If diagnostics were really a complete science in itself, then all clinicians possessing the same amount of experience would be equally good diagnosticians. But we know the fallacy of this presumption.

And what obstacles do we, who strive to make diagnostics a science, encounter! What an enormous amount of clinical material we must have observed, what a mass of pathologic and chemical studies mastered ere we can boast of having attained even the minutest progress in the method of diagnosis which serves to perfect the recognition of but a single characteristic symptom! And, finally, how often, after all, can a perfectly positive diagnosis be made when an organ whose situation makes it unreachable by ear or eye is involved? If all diseased organs could bear witness—I mean not only those which have been subjected to necropsy, but also those which again have become sound—what would remain of our glorious science of diagnostics? We who work in laboratories, in clinics and at autopsy tables must concede, if we are sincere, that the greater part of the diagnostics of to-day really belongs to the sphere of art and not to science.

Let us linger for a moment in the domain of pathology and ask what service, if any, it has ever rendered to the common every-day practitioner of medicine, for it is of him and not of the different specialists I speak. If we come to the point, it is in reality nothing else than the antitoxin for diphtheria which pathology has furnished him. Everything else emanating and taking its root from the science treating of the nature of disease for the purpose of curing the latter has proved ephemeral, in vain, illogical and unscientific.

And now to the prognosis, which, in my estimation, is next to the treatment, the alpha and omega of every patient. Of course, it should be based on the diagnosis of the disease, as has again been stated by Dr. Dock[1] last year in his excellent oration before the American Medical Association. It goes without saying that this would be the desideratum. The case can not always be accurately diagnosed, however, especially at the onset, and not every individual practitioner who is an optimist and a fair therapeutist is endowed with the proper amount of precise reasoning. In the same address, on the other hand, is advocated the principle that "in practical prognosis we must individualize, just as we have to in therapeutics, with the patient's welfare ever the object of our activity." Avowedly, prognosis thus must be looked on and fostered as an art primarily and not as a science.

And therapeutics—what has this main branch of medicine to do with *de facto* science? Very little, indeed. It is true, we presume, we know at this day why quinin acts in malaria; still the drug was prescribed with the same good results and millions were amassed in its manufacture many, many years before Lavaran's discovery of the plasmodia; we also pretend to be acquainted with the specific activity of a number of other drugs, but our forefathers in medicine, not knowing their specific qualities as we suppose we do, have employed them for similar purposes as we on the threshold of the twentieth century. It is certainly most gratifying to understand the pharmacodynamics of a drug—I mean the physical and chemical alterations it elicits in the organism—to know why it exerts a beneficial influence in a specific case. The practitioner, as a class, has never evinced a special craving for this sort of knowledge. He has always been content to know that a certain remedial agent was effective in reducing a certain symptom or set of symptoms. Why this should be so was little concern of his.

All peoples at all times have endeavored to mitigate disease. The sick were nursed and treated ages before one had the slightest conception of the structure of the human organism, not to speak of the various functions. The ancient priest-physicians, though, were adepts in the art of healing, for the people confided in them and the temples of antiquity were resplendent with the gifts of the grateful patients. Systems of medicine have come and gone; one school, one sect, has superseded the other. In principle and theory they might have differed widely; in practice they might have employed discrepant means; their object, however, was always the same; to relieve the unnatural, the distressing phenomena. Internal therapeutics, at all times, in spite of occasional attempts at rational medication, has always been aimed at the symptoms and not at the underlying factors of the disease. And how could or can it be directed against the cause of the disease when this was and is not understood? In this, the bacteriologic era in medicine—an epoch solely due to the perfection of the microscope, the introduction of stains and the methods of pure culture—the subject of rational medicine is again foremost in the mind of the medical fledgling. But what about his rational treatment? Well, for that cough he prescribes codein or some expectorant, for that fever some coal-tar product, for gastric indigestion

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[1] The Journal A. M. A., June 11, 1904, p. 1540.

(and almost every case of gastric indigestion which I ever encountered was due to carbohydrates) pepsin, and for constipation—well, once in a while cascara sagrada, because one can not always keep the patient on cathartic pills or calomel.

We are not at all justified to speak at this day of our rationalism in the practice of the healing art, for what we are practicing is everything else but rational medicine. The treatment afforded by surgical measures may be rational in as far as it is directed against the cause of the affection. Internal medicine, on the other hand, is still helpless and has to combat the symptoms or the condition. Of course, the adherents of the modern medical fetiches, bacteriology and serumtherapy, if at all, will admit this with great reluctance only. The new graduate recognizes these facts instinctively when he wants to pose as a surgeon. I can not concur with the prevailing opinion that the young physician takes to surgery or to one of the surgical specialties merely on account of the probably greater pecuniary benefit he may derive from their practice. Besides apishness, the feeling of grandeur, the illusion of a resplendent social position and a mediocre intellect, I think it is nothing else but the therapeutic uncertainty and agnosticism fostered especially by the modern pathologic school in which he has grown up that prompts him to cast his lot with quick-results-yielding surgery.

Almost the entire science of therapeutics is nothing else but more or less refined and varnished empiricism, all protests to the contrary notwithstanding. The better a practitioner has trained himself to administer to the immediate needs of the patient the better a physician he is. Those who are adherents of the Vienna School of Medicine, the cunctators in therapy, may have a proper conception of the futility of influencing the course of disease by remedial measures. They may be close observers and shrewd diagnosticians, which by no means stamps them better practitioners, practitioners in the sense of alleviating the patient's mental and bodily discomfort. Is it not quite inhumane to follow to the letter the dictum of Skoda, who said: "We are able to diagnose, describe and understand a disease (when it runs a well-known typical course, I would add), but we must not believe that we are able to cure it by any of our remedies?" Of course, we can not materially influence disease in the great majority of instances, but we can mitigate its symptoms very frequently. The followers of Skoda wanted to be rational, and consequently did not even make an attempt to treat the patient. Was not Boerhave, with all his shortcomings, the greater physician who treated symptomatically and who, when presenting a case at his clinic, could exclaim to his audience: "Hear ye, and admire the power of the medicaments; we have conquered all the symptoms!"

Skoda, on the one, and Boerhave, on the other side, represent the extremes in school-therapeutics of all times. And yet not quite a century and a half intervened between the advent of the two. On both sides consciousness of the ignorance concerning etiologic treatment; on the one side, in consequence, therapeutic despair, lethargy and nihilism; on the other, overestimation of therapeutic influence, drug delusion and enthusiasm and polypharmacy, and on both sides a good deal of credulity, unjustified hope and mysticism.

We know now that most, if not all, the so-called infectious diseases are self-limited. The effect of remedial measures on the underlying condition is nil, or almost so, in every instance. But is this any reason why we should leave the patient suffer? Should not we try to relieve his pain, his fear, his dyspnea, and the many other distressing phenomena? As a matter of fact almost every one of us follows the precept of symptomatic therapy; the very moment, however, we play the good samaritan we are decried by the so-called medical scientists on account of our empiricism, for we employ drugs of the ultimate action of which—in the light of our day—we know but very little.

Possibly I have painted somewhat too darkly, possibly I discriminated too sharply between science—real science—and the healing art. Yet it must be plainly evident to everybody who cares to see that the light of universal science, notwithstanding all radium fanaticism, thus far does not shine, and may never penetrate, into the depths of life and disease, and that the practice of medicine of to-day differs only in degree and not in character from that of our immediate predecessors.

The naive practitioner does neither know nor would he believe this. He imagines himself a man of science and chases after phantoms just in vogue. He weaves theories which can not be proved and swallows everything of a pseudoscientific character as long as it bears the stamp "made in Germany." If a theory, and be it ever so abstruse, absurd and incomprehensible, hails from the land of Virchow, Koch and Billroth, we on these free shores receive it with profound respect, reverence and open arms, and soon become interested in it, more converted to it than its propounders. Verily, another case of being more catholic than the pope.

In his search for that which he considers science—hypothesis and a series of mostly misinterpreted facts which are utterly useless to him in his practical work—the physician of to-day forgets that he is, above all, the confidant and the comforter of the patient and his family. He forgets that his purpose should be to help the sick and that he must be up and doing. He forgets that the sick individual cares little for the bacterium babble and his numberless theories, but that he desires to get well and to be relieved from aches and pains as speedily as possible—at once. He forgets that he is dealing with an individual and speaks of him as his case only. In his ardent quest for that putative science he has lost the most potent charm of the physician—sympathy, that eternal sympathy for the suffering which is often more effective in alleviating the patient's condition than all pain-soothing remedies. He has become coarse-grained and does not seek to hide his callousness from the patient; on the contrary, he tries to impress the patient with it, for is this not the surest way to inspire him with awe and reverential respect for himself, the master of the situation who has deeply quaffed of "science," with which he is saturated?

Can we marvel, then, that his practice dwindles from day to day? Is it thus surprising that we hear of "the passing of the family practitioner" from one end of the country to the other? Small wonder that the refined and sensitive public shuns him by degrees, delving instead into mystic lore and seeking admission into mystic sects! Need we wonder why the lower classes do not consult their physician any longer and buy their patent medicine trash wherever they can procure it cheapest? The patient probably does not doubt the physician's learning, perhaps he would have himself treated by him and pay the (alas!) too modest charge if but a little sympathy, a little mental comfort, were thrown into the bargain.

Sympathy and the skillful execution of his profession make the successful practitioner. Where the physician who is endowed with common sense and humanitarian instincts puts up his tent—there mystic sects and their systems of healing find little following, there the manufacturer of patent medicines reaps no benefit. Such a physician still enjoys the confidence of his patients; he is the father-confessor of the entire family, he is a member of the town council, collects his bills and is a man among men. What a different picture unfolds itself where the fetich of science with its concomitant huffishness, airs and disregard for the patient's welfare has taken possession of the pupil of Æsculapius! There we find a few professors riding in automobiles, drinking champagne and having the pecuniary means to imbibe annually at the fountain the wisdom of Teutonic phantasts, but there we find domiciling in the unfashionable quarters lean and round-shouldered individuals with empty pockets and stomachs waiting for patients in whom they want to inject imported serum; they vegetate and become paupers, or make a dash for liberty and turn book or medicine or insurance agents, or anything else, but hardly ever become true and ideal physicians, because it is not in the nature of the beast. These are the men who in youthful idealism have embraced what they thought to be a definite science, but it proved a fetich which estranged them from their real calling and spoiled their useful career.

For the sake of argument, let us for a moment waive the question whether that which is considered scientific medicine is a real or pseudo science. Unfailingly we will come to the conclusion that too much hypothesis in medicine is averse to the calling of the physician, as it is averse to the devoted exercise of religion. A physician need not, nor should be, the possessor of much complementary or theoretical knowledge; if he has the gift of[2] quick and intelligent observation, together with the ability of associating ideas, if, in short, he is a man of shrewd common sense, it is by no means necessary for him to possess high erudition and scientific attainments to become an excellent practitioner of medicine. A physician of that caliber, even without marching in the limelight of scientific supremacy, may be an ornament to his profession. On the other hand, the physician as a so-called scientist may contribute the most learned (though abstruse and highly hypothetical) dissertations on the special subject of explorations which he has chosen as the task of his life; his presumed, scientific attainments may far exceed those of his humble confrère, the common-sense practitioner; and yet, for that matter, there is no conceivable reason why he should be a greater or even as great a factor in the real progress of medicine. On the contrary, it is more than likely that he so binds himself up with that comparatively narrow circle of vision that pertains to his special branch of science that he is likely to approach everything from his own narrow standpoint, look at everything through spectacles clouded by personal prejudice, try to explain matters of general import—so far as he attempts to explain them at all—from his own special point of view. He may, in fact, dote with the greatest possible application and fervor, with the zest and enthusiasm of the true scientist, on minute details, but fail in the rudimentary principles of the common-sense practitioner. He lacks the power of initiative and force of creation. If nature had ever bestowed these priceless gifts on him he is almost certain to lose them through one-sided study, through concentration on one more or less theoretic subject.

Representatives of theoretical medicine, such as these, will but scantily contribute toward genuine progress in spite of the isolated discoveries which may, at distant intervals, light up their monotonous plodding like an unexpected shooting star in the dreary black of a dismal autumn night. When these hypothetists have once enshrouded themselves in their pet theories and notions, for the nursing of which they may have spent the best part of their lives, it is very difficult and almost impossible for them to give the same up in favor of results attained by the genius of others, faulty though their own researches have proved. In this respect they are veritable champions of retrogression; they obstinately cling to their own doctrines in which alone, they think, salvation lies ensconced, and thus produce a stagnation on the very field the cultivation of which they profess to have elected as their special domain. They thereby brand themselves as representatives of a doctrinary science—a science which has ceased to live, and which in reality is no longer a science from the moment that it is recognized to be false. Essentially great questions which have a true bearing on the health of the individual, the health of the nation, the health of the human race, have never been asked by these representatives of theoretical knowledge, but rather by those practical men who have no time for specifically theoretic pursuits. From this point of view it would appear that the general practitioner who mixes with the people, who looks into the houses, into the beds, and into the stewpan, who knows the world at large, and also the particular world in which he moves, who not only observes things, but also associates them with surrounding circumstances, can contribute far more food for the solution of human problems than his brother who works with microscope and test tube. It is no cause for wonder, then, that the really great questions affecting the natural sciences have never been asked by professional scientists, nor is it cause for wonder that so many medical discoveries have been made—not by those who have devoted their lives to the confines within which the discoveries ranged, but by the unknown practical men who can not boast the highest scientific education, and whose names are not always chronicled on the scroll of fame.

And now you know whom I consider the ideal, the true physician. It matters not to me what he prescribes to accomplish his immediate end, so long as he knows what he is prescribing. I don't care whether the drug which he employs is made in Germany or whether it is compounded in this country, whether it is patented and trade-marked or whether it is simply trade-marked. In this respect, all coons look alike to me. If he finds it convenient to prescribe or dispense a combination of known composition bearing a copyrighted name, that is simply his concern and nobody's else. It is a peculiar taste, I avow, to order something which is trade-marked and which could be dispensed for a small fraction of the price the patient has to pay for the copyrighted article. However, this is the individual practitioner's concern and not mine. He may have weighty reasons for preferring the put-up preparation. Again, will the patient be the financial gainer by obtaining a combination of the doctor's specification, will the dispenser not charge about the same amount for, say, twelve powders whether they contain the copyrighted or a similar article compounded in his shop? To me, the entire question of patented and proprietary medicines of known composition is a contest between the manufacturer and the dispenser, whether the one or the other shall pocket the profits. It is a humane trend to sympathize with the under dog, and thus we offer our moral and material suport to our friend, the druggist at the corner.

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[2] Part of the following has already been published elsewhere.

We physicians are mighty queer people. Up to the brim we are full of inconsistencies. We may be starting in practice and get along with two meals a day, but we fail to send our bill to the well-to-do father of a colleague, or to the political boss; we are timid and shy, but agitate with all our energy for the erection of new dispensaries and hospitals; we dismiss our colleague's diagnosis of a case with a shrug of the shoulder, and are ourselves supersensitive what others think and say about us; we tear to pieces our fellow practitioner's literary attempts, but we are staunch believers in the moloch of medical authority. We are going astray because we are inconsistent in our daily life, because we have ceased to believe in ourselves. We may live to see our débacle because we are misconceiving our calling, because we have lost our understanding for the real needs of the patient, because we leave the drying of his tears to a nurse, because we make our night calls by telephone. We have so little time for the patient, in the morning we have to make an examination in the laboratory, must be in the surgical amphitheater in the afternoon, must not fail to discuss our neighbor's paper—for he is our good friend—at the district meeting in the evening, and then we must not forget to see the boss, the senator, on account of that job with the railway company.

Orthodox medicine of to-day, with its shallow doctrines—masquerading as "science"—has estranged us from our real calling. Let us tear off that orthodox yoke! Let us preserve our individuality! Observe for yourselves, think it out for yourselves, give your sympathies to your patient and give him your help and don't wait for a specific curative serum. Drop that which medical autocrats have presented to you as "science"; it is an encumbrance on your energy as true physicians, it makes you uncertain in your therapeutic activity, it destroys your belief in the efficacy of your symptomatic procedures without bringing you nearer to the goal of rational medication.

I respect the heroes of the microscope and the biologic test; they, of course, are in deep earnest about their work; they are optimists and Don Quixotes, but their little field is narrow and entirely devoid of paramount stabile facts. The meager results which they have obtained to this very hour are absolutely insufficient to build thereon the superstructure of medical treatment. Will ever their microscopic and biologic testing create for us a new paradise where disease finds its alleviation and cure? Does not the true man of science feel rather sceptical about this? Is not the true man of science a good deal less hasty in proclaiming to a credulous world a new-found fact, is he not one who refrains from enunciating vague speculations thereon?

The more hasty such professional investigators, the more insincere and unscientific they are. Those in subordinate positions, as a rule, are the more conservative ones; they work and are in earnest. It is different with a great number of inflated pygmies in the professorial chairs. Comments made by the *Electrical World and Engineer*, May 27, 1905, anent hasty scientists fit their case admirably. Says this editorial:

> It is now near two and a half centuries since Isaac Newton, in one of the flashes of intuition that form man's best title to mortality, saw disclosed to him the key to the mysteries of space. It was a half lifetime later when, through years of patient study and waiting, data enough had come to his hands to clear his conscience in announcing his discovery. For very truth's sake he gave to the world no half-baked hypothesis nor ventured to exploit with specious arguments a doctrine which did not quite meet all the facts. We do things differently nowadays. How would the great discoverer have fared had he occupied the chair of physics at ——— University, where a monthly blank is forwarded to heads of departments to be filled out with reports on the "researches" they have completed and the number of lectures they have given before women's clubs? Would he have held his peace, or would he have sent for a reporter of the *Daily Saffron* and have filled him full of speculations on the bounds of space and the origin of life? Would he have cut up his great hypothesis into stove-lengths, as it were, to furnish his hustling pupils fuel for frying their theses? Would we have had Prof. I. Newton and Thomas Snoobs, B.S., on "Gravitation in Jupiter," and Prof. I. Newton and Richard Roe, A.B., on "Gravitation and Saturnian System," and so on *ad nauseam*? And would the president have sacked him for insinuating that something in the universe had a more consistent pull than the chief benefactor?

These remarks, called forth by a number of articles on the characteristics of radium, are continued, thus:

> We are far from denying the possibilities of the working hypothesis assumed by Rutherford and his confrères, but what would Newton have done? Would he have left, before developing the results of his hypothesis, any stone unturned that might give him light on its fundamental correctness? Profoundly interesting as are theories of the genesis of the so-called elements, they furnish no adequate excuse for neglecting to examine the elements at hand. Take, for example, the substance radium itself. There is good reason to assign it a definite place among the other elements, and a rational set of chemical and physical properties quite apart from its radioactivity. *Who, of all those who have theorized about its radiations, have any knowledge of the physical properties of the metal,*[3] with the bromid of which they are daily working? *Is there anybody, indeed, who can affirm from actual knowledge that the metal radium is radioactive at all?*[3] Radium salts are, unhappily, costly, the latest newspaper quotation being $3,000,000 per ounce, but the subject is surely of sufficient importance to justify some one in trying to produce a few milligrams of the metal. Again, it seems to be well established that radium salts give off heat spontaneously and steadily, as an accompaniment to their radioactive activity. But there has not yet been any adequate investigation of the actual cause of this thermal energy.
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> We have had any amount of speculation based on the assumed endothermic properties of radium, including a voluble explanation of the source of the sun's heat and the interior temperature of the earth, but there has not been yet a really serious attempt to determine whether the phenomenon itself is primary or secondary—due to disintegration or to the return of energy received from exterior sources. Everybody seems to have jumped at the former conclusion as the striking and sensational one without further discrimination. Likewise, in the case of radium emanation, we have on good authority the appearance of helium as a decomposition product. Radium has a definite spectrum and so has helium, but, although the spectroscopic study of this mysterious evolution of helium ought to show clearly and certainly the whole progress of atomic disintegration, no word has yet come to enlighten us. The true and faithful student of radioactivity seems to hold old-fashioned chemistry as anethema, and the spectroscope, that magic wand that has turned back the veil from interstellar abysses, as a deceit of the devil. Now the subject is a tremendously important one—we began this comment intentionally with a reference to gravitation—and it deserves the best efforts of the greatest investigators. The

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[3] Italics mine.

thing which we would impress on them, however, is that hypothesis needs to have its wings clipped a bit just now. It is well to remember Newton's immortal lesson in scientific self-restraint, and to make sure of one's foundations, before building a new heaven and a new earth from anything so elusive as radium emanation.

Yes, hypothesis needs to have its wings clipped a bit just now, especially when it springs from shallowness and is conceived in insincerity. Hypothesis, masquerading as science, is the fetich to force you in the bondage of those who like to have themselves called authorities, but who are too indolent and too sterile intellectually to do original work, to do anything for which cash is not forthcoming immediately. These are the drones in the domain of medicine who arrogate for themselves the meat and magnanimously leave for you the bones. These are the men who have invented for you the worship of the new fetich, "medical science;" these are the men who have led you astray. Like hornets disturbed in their nest, they will resent the intrusion and with the poison of their stings will seek to render futile the purpose of this address.

And once more I implore you: Away with the fetich, down with the false gods!

Original Articles

SINUS THROMBOSIS.

A REPORT OF TWO CASES, WITH MASKED SYMPTOMS.*

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In presenting these two cases of sinus thrombosis, I desire to call special attention to the following points:

1. The thrombosis in each case, although of otitic origin, was masked by the symptoms of the other diseases,—in the first case by coexisting typhoid; and, in the second case, by a history of malaria.
2. The so-called classical symptoms of sinus thrombosis, namely,—chills, fever and sweats, were not present in either case.
3. The thrombosis in each case was suspected by certain irregularities in the history which led to uncovering and carefully examining the sinus, after the mastoid ablation.
4. The thrombosis was demonstrated in the first case by purposely opening an apparently normal sinus.

Case I.—E. H., a sailor aged 38, was admitted to the Los Angeles Infirmary Feb. 21, 1904, with a temperature of 104.2 and the general symptoms and signs of typhoid fever.

History.—The course of the disease after the patient's admission to the hospital was typical. He was irrational at times and gradually lost his weight and strength. On March 15 a sudden rise of temperature to 104 called for an examination of the ear, from which there had been a purulent discharge. The temperature for the preceding two weeks had been regular, from 101 to 102 in the afternoons and from 99 to 100 in the mornings. The aural suppuration dated back two and a half weeks and followed earache of a few hours' duration. There had been a little pain off and on in the affected ear. The discharge continued and the ear was being carefully syringed. The patient had complained very little of the ear, and it was considered a doubtful factor in the rise of the temperature.

The notes made at the time of my first examination, March 15, are as follows:

"Temperature, 104; pulse, 74; general condition bad; emaciated and weak; answers questions rationally when aroused, but soon relapse into a typhoid condition. The examination of the ears shows a purulent discharge from the left ear, sagging of the posterosuperior canal wall and an inflamed bulging ear drum, with a small insufficient perforation. The mastoid shows no edema or redness. Very slight tenderness is elicited on deep pressure over the antrum and tip of the affected side. The right ear is normal. The nose and throat are in good condition. The eyes are normal. There are no motor or sensory disturbances."

The quantity of the middle ear discharge and the sagging of the posterosuperior canal wall rather indicated mastoid involvement, in spite of the lack of pain or marked tenderness. The drum membrane was freely incised on the following morning to obtain better drainage, in the hope that a mastoid operation could be deferred until there was some improvement in the typhoid condition. During the next three days the temperature fluctuated, the morning temperature being from 99 to 100 and the evening temperature as high as 105. There were no chills or sweats, no vomiting, and the rise in temperature was regular and occurred in the evening hours. The discharge from the ear was profuse. A mastoid operation was finally considered necessary.

First Operation.—Mastoid, March 19, four days after the first aural examination. The mastoid cortex was found hard and not perforated. The superficial cortical cells were full of granulations, but contained no pus. The deeper cells, especially those of the tip, were full of pus. When the antrum was opened several drops of pus welled up. The zygomatic cells contained pus and granulations. A complete ablation of the cellular structure of the mastoid was made down to the hard bone covering the sinus and to the inner plate of the middle cranial fossa. The cells over the sinus groove contained mucopus. The bony plate covering the sinus was found to be hard and intact from the knee downward. Behind the knee it was found somewhat softened, and at this point the sinus was purposely uncovered and examined. It was blue in color, soft, and except for a slight capillary injection of the dural coat, it was apparently normal, and, therefore, was not opened. The mastoid cavity was packed with iodoform gauze and the usual dressing applied.

Postoperative History.—During the next three days the temperature varied from 99 in the morning to 103 in the afternoon. The mastoid wound was dressed and found clean on the second day. On the fourth day the evening temperature again rose to 105.5 without any chill, vomiting or other disturbances, except pain in the opposite shoulder. This pain had been complained of for several days and was so intense as to require morphia. There was no pain in the head, and no pain or tenderness on either side of the neck. Careful examination excluded pulmonary, cardiac or abdominal complications as possible causes of the irregular fever. As the fever indicated septic absorption, it was determined to open the lateral sinus, which, in spite of its normal appearance, might contain a thrombus. On account of the weak condition of the patient the sinus was opened without moving him from the bed. The usual precautions were taken to prevent infection and to control the bleeding. The sinus, where previously uncovered at the knee, was opened with a knife and found thrombosed.

Second Operation.—Resection of the lateral sinus and internal jugular vein. March 24, under ether anesthesia. The bony plate covering the sinus was rapidly removed from the knee downward, as close as possible to the bulb, and behind the knee for about one inch. The sinus wall was thin, not inflamed, and would easily pass for normal. The wall was incised from the opening made at the knee, downward as far as possible and soft clots gently removed. The upper end of the sinus was then curetted of soft clots until a fresh gush of blood occurred from the torcular end. This was controlled by pressure. An attempt was then made to establish a return flow from below by gently curetting the clots from the bulb end of the sinus. Failing in this, it was imperative to ligate the internal jugular. The vein was rapidly exposed and ligated above the omohyoid muscle, and resected from this point upward and ligated about one inch above the facial branch. The part of the vein removed was not thrombosed and no effort was made to resect the thrombosed portion at the jugular bulb. The pulse became so weak during the operation that it was necessary to give an intravenous injection of hot saline solution (130 F.) at the elbow. Hypodermic injections of adrenalin were also given. The neck incision was partly sutured, the usual dressing applied and the patient returned to bed.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Result.—The reaction from the operation was fairly good. The temperature, however, continued high and irregular, but without chills or sweats. Rather as an experiment, antistreptococcic serum was used by hypodermic injections, 20 c.c. at a dose every twenty-four hours during the next four days. No benefit was observed. Low, muttering delirium was more or less constant. Death occurred on March 29, six days after resection of the thrombosed sinus and vein.

Autopsy.—The notes made at the autopsy are as follows: "The body is considerably emaciated. There is a large bedsore over the sacrum. The mastoid wound is clean; the torcular end of the sinus is plugged by a small, firm clot at the cut end. From the jugular bulb a soft clot is pulled out; it does not show septic disintegration. The dura is normal except for some congestion. The cerebrum and cerebellum are normal. The neck wound is clean and free of pus. The ligated upper end of the jugular vein, near the bulb, contains a soft clot. The lower end of the jugular is securely closed by ligature and is normal. The small intestines show several typhoid ulcers, each the size of a dime, near the ileocecal valve. There is no perforation of the intestines and no evidence of hemorrhage."

Microscopic examination of the clot from the jugular vein by Dr. Stanley Black, Medical Department of the University of Southern California, was negative; the examination of the typhoid ulcers showed them to be of several weeks' duration and without any apparent tendency toward healing.

Remarks.—The cause of death was septicemia, resulting from the sinus complication. The septicemia probably had commenced, judging from the temperature chart, as early as March 15, when I first saw the patient. The active typhoid symptoms and the weak condition of the patient obscured the sinus symptoms. The sinus was probably thrombosed at the time of the first operation, when it was uncovered and examined, but not opened. That the sinus wall showed so little evidence of its true condition is possibly due to the fact that the thrombosis did not result from direct infection of the wall by continuity, but through some of the venous channels of the mastoid opening into the sinus.

The second case of sinus thrombosis presents a very different history in nearly every respect and the thrombosis would not have been discovered except for an exploratory mastoid operation rendered necessary by reason of a vague malarial history following an acute aural suppuration.

CASE 2.—A. G., a man, aged 20, was referred from the medical to the ear clinic of the Medical Department of the University of Southern California on account of aural discharge and some mastoid tenderness. He had sought and received medical treatment on account of chills and fever, the ear complication being a complication of secondary importance.

Examination.—At his first aural examination, March 20, 1904, Dr. W. D. Babcock, in charge of the ear department, found some tendencies on deep pressure over the mastoid and turned the case over to me, his assistant, for treatment. The patient stated that his ear trouble dated back two months and a half. It began by buzzing noise and deafness in the right ear. The discharge began six weeks later, without much pain, and still persisted, although gradually diminished in quantity. He claimed to have had a chill three or four weeks before seeking treatment and thereafter a chill every day or two. The examination notes made April 1, are as follows:

"The general condition is good except for some pallor. Temperature, 99; pulse, normal. He complains of attacks of chilly sensations and sweats, and severe pains in the mastoid during the past few days sufficient to prevent sleep. Examination of the right ear shows a scant purulent discharge; a dull red drum membrane, with an oval perforation in the lower anterior segment, no bulging of Schrapnel's membrane; no sagging of the postero-superior canal wall; no granulations. (The appearances were those of an acute purulent otitis media that was subsiding). The hearing is considerably affected in the right ear,—watch, negative, conversation is questionably heard, stage whisper 6 inches; speech 1 inch. The mastoid shows no redness or edema; slight tenderness over the antrum and tip, but acute tenderness on pressure over the emissary vein. The left ear is normal."

The history of chills and sweats for which the patient was being treated in the medical clinic, was then looked into. He stated that the first chill occurred three or four weeks before, while in Mobile, Ala., and that the chilly attacks and sweats had occurred irregularly since then. The attacks were not well marked. There were no sharp paroxysms. He had been taking quinin for several weeks. The tongue was pale and flabby; skin and conjunctiva anemic and spleen slightly but palpably enlarged.

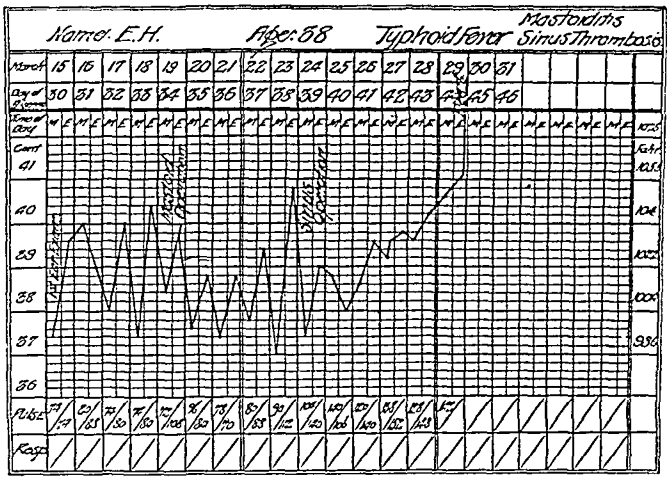
Blood Examination.—Blood smears were made and sent to the laboratory for examination for malarial organisms, and the patient told to report on the next clinic day. The laboratory report stated that blood smears from this patient had been sent in from the medical clinic and malarial organisms recorded as present.

Course of Disease.—By April 19 there was no change in the condition. Vague pains in the mastoid and head persisted. Several examinations failed to show any fever. The aural discharge had about ceased, but the tenderness at the posterior border of the mastoid was quite acute. For this reason, a mastoid operation was advised, after consulting with Dr. Babcock. It was explained to the patient that much or little might be found; and his consent was obtained in writing.

Operation.—April 10, mastoid ablation; resection of the sigmoid sinus. The mastoid cortex was found hard and normal. The subcortical cells were almost obliterated. Hard bone was removed with a gouge for a considerable depth before any mastoid cells were found. These were small, and full of granulations that bled freely. Deep in the tip a cell of some size was opened and contained cheesy material. The antrum was opened through partially sclerosed bone and found to be small and to contain some granulations. A posterior straight incision was made and the flaps reflected. The cortex over the sinus was hard and thick and was removed with a gouge, exposing a small cavity of cheesy material about one inch behind the bony canal. A complete ablation of the mastoid was done down to the hard bony plate covering the sinus and above to the bony plate of the middle cranial fossa. The latter was normal and the dura was not exposed. The cavity was dried and examined. Except for a dark discoloration of the bony plate covering the sinus, deep in the tip, there was no evidence of any diseased structures not already eradicated. The findings had proved to be those of resolving mastoiditis, sufficient to account for the mastoid pains and tenderness. It was remarked that the pathologic changes were those that tended to, and would likely have resulted in, sclerosis of the mastoid.

The history of chills and sweats, however, prompted us to uncover and to examine the sinus in order to be assured that it was normal. The cheesy mass that was found and cleaned out at the tip and the dark color of the bony groove behind this cavity pointed to this region of the sinus for examination. The overlying bone was carefully removed, whereupon some little pus escaped. The sinus was then uncovered from this spot upward to the knee. The wall was found to be covered with a thick, yellow exudate. Below, where the pus came from, there was a small protuberance. At this point the wall was ulcerated, and some of the pus evidently came from the lumen of the sinus. The outer table of the skull was removed along the horizontal limb of the sinus backward from the knee to the extent of 1¾ inches, before there was any appreciable decrease in the amount of fibrino-purulent exudate that covered the sinus and adjacent dura. This exudate and thickening of the dura was so great that it was difficult to make out the margins of the sinus. The sinus was collapsed, as was also the emissary vein, which could be made out. The descending limb of the sinus was incised from the ulcerated perforation below upward to the knee, and found empty. The horizontal limb of the sinus was gradually incised on a grooved director to the extent of 1½ inches. The walls were thick, collapsed, and seemed, as it were, glued together. A grooved director, followed by a curette, was passed backward and toward the torcular to the extent of 1½ inches further, without any flow of blood resulting. It was evident that the lateral sinus was obliterated, probably, as far as the torcular; and it was considered unwarrantable to open the sinus further in this direction. As the pus was in and about the descending part of the sinus, an effort was then made to obtain a flow from below. The sinus' outer wall was cut away and opened as near the jugular bulb as possible. A small curette was gently passed into the bulb end. No clots were found, but a welling up of blood followed the removal of the curette. The curette was again inserted and a better flow of blood followed, and was controlled with a gauze plug. It was not the strong gush that usually follows a return flow from below. It was evident that the lumen at the jugular bulb had been obliterated by the same pathologic changes found above, and been partially opened with a curette. Believing that there was no thrombus in the bulb, it was not considered necessary to ligate and to excise the jugular vein. Both ends of the sinus and the mastoid were packed with iodoform gauze, the posterior straight incision sutured completely and the curved incision left open.

Postoperative History.—The subsequent history was uneventful. The temperature was 101 the day after the operation, 100 on the following day and normal by the third day. No quinin was given after the operation. Investigation showed that the blood examination for malaria, heretofore recorded, was made by a student and was likely unreliable, for there was no further complaint of chilly attacks, fever or sweats. The posterior skin incision over the sinus healed by primary union. The mastoid wound filled in gradually with firm scar tissue. The patient was up and dressed on the tenth day, left the hospital on the twentieth day and went to work at the end of five weeks. There was a slight mucus discharge from the ear thereafter. The small perforation did not heal. The drum membrane became dull white in color.



While I was ill the patient left the city for his home in the East. At that time, May 31, he still had a small funnel-shaped mastoid wound at the bottom of which was the aditus, from which there was scanty discharge. It was kept open in the hope of more quickly healing the middle ear and drum membrane. There was no bare bone and a retaining patch of gauze was worn to hold the loose dressing in the wound. A report from his physician six months later stated that there was still a small, dry sinus behind the ear and a scanty ear discharge. The patient wrote that his hearing had improved rapidly. A letter eleven months after operation stated that he had remained in good health in every way, but that a small sinus and scanty aural discharge had persisted, in spite of frequent curettements, and that a radical operation had been advised in order to heal this.

REMARKS.

A case similar to the second case which I have reported was described by Dr. J. E. Sheppard, at the New York Academy of Medicine, Nov. 21, 1898. In his case, the symptoms likewise simulated malaria and the sinus was opened and found thrombosed as far back as the torcular.

In the first case here reported I regret that I did not open the sinus at the first operation, in spite of its good appearance.

The temperature chart indicates that septic material was then entering the circulation.

I have been able to follow up twelve cases of sinus thrombosis—nine while house surgeon at the New York Eye and Ear Infirmary, and three in my own practice.

It was a striking fact that the thrombosis of the sinus in five patients who recovered was not diagnosed before operation, but discovered by purposely opening the sinus wall on account of its suspicious appearance. This experience is in accord with the statement made by Whiting in 1898, that "the diagnosis of sinus thrombosis in the first stage (thrombus not having undergone disintegration) is, with rare exceptions, consequent on operation for mastoiditis."

I have seen the sinus uncovered purposely or unintentionally 115 times in 198 consecutive mastoid operations, without any bad result. In 69 cases the sinus wall was found to be normal.

I have seen the sinus opened purposely or accidentally, 24 times in this series. In 12 cases thrombosis was demonstrated. In the remaining 12 cases, no harm resulted except in one case which terminated fatally from thrombosis. It is possible that this complication would have resulted, independent of the accident, as it was a badly inflamed sinus wall. The danger from delay in opening the sinus until symptoms of chills, fever and sweats appear, was shown in this series, for all of the seven patients who presented a history of these symptoms died. Many such patients, of course, do recover, but this experience emphasized the fact that the so-called cardinal symptoms of thrombosis are symptoms of a late and dangerous stage, namely, of septic disintegration. I believe that the tendency to terminate the mastoid operation in a case of long standing, or much mastoid destruction, without uncovering the sinus sufficiently to relieve one's mind of doubt as to its condition, is not in accord with good surgical judgment.

DISCUSSION.

Dr. George F. Cott, Buffalo, said that these cases occur from time to time and are often overlooked by the general practitioners. The symptoms are often masked so that it is almost impossible to determine whether or not there is sinus thrombosis. When there is a discharging ear, a phlebitis or thrombus may be suspected; when, however, it occurs in other diseases, the practitioner's attention may not be called to it, because the symptoms may be completely masked. Sometimes in typhoid fever or some other zymotic disease there may be quite typical symptoms of sinus thrombosis that will be overlooked. In case there is no history of ear trouble, it is very readily overlooked. Sinus thrombosis may be caused not necessarily or directly by ear trouble and yet be due to that indirectly. For instance, in a case of chronic ear trouble from which the patient had recovered years ago, acute infectious sore throat may set up an inflammation of the bone, not necessarily affecting the middle ear, and in that way affecting the sinus and causing a thrombus to form without the septic symptoms. The otologist may cut down and mistake the thrombus for a pus sac or something else in the brain. In such cases it pays to explore; one may find some fluid or a little pus. Such patients almost invariably die from septic trouble. When the phlebitis first begins, it depends on the extent of the infection from its source in the ear; if the disease is not checked in some way, by Nature or otherwise, the inflammation extends along the vein and the thrombus gradually forms. That thrombus may extend from the torcula herophili down to the bulb and possibly down the jugular vein. Dr. Cott has seen one that filled the sinus entirely from the torcular to the bulb. The patient had absolutely no symptoms but those of secondary suppuration of the middle ear, with some little irritating feeling and a slightly irregular temperature. Another condition of importance is that there may be phlebitis without the formation of a thrombus. It does not follow that one is justified in operating because this peculiar typical temperature is present, no matter whether there are three or four degrees difference in 24 hours or in 12 hours. Dr. Cott's experience is that it is not necessary to open the lateral sinus unless there are other symptoms present. Less than a week before going to Portland he did a radical operation on a little girl 7 years of age, and following the operation he watched the temperature, which is still quite typical of sinus thrombosis. He did not and does not intend to operate on that child. He turned the case over to another otologist with the intention of having him operate if the child showed other distinct symptoms. She sat up and ate and felt well in every way.

Dr. C. F. Welty, San Francisco, said that the picture drawn in most cases of sinus thrombosis is so characteristic that it is downright negligence not to make a diagnosis at once. Again, the diagnosis may be so complicated that one can not say with any degree of certainty what the pathologic lesions may be. By a process of elimination the physician arrives at conclusions as to probabilities, and in most instances makes a correct diagnosis. The case that was diagnosed typhoid fever, with a temperature varying from 99 to 104 and with discharge from the ear, gives almost certain evidence of sinus thrombosis, because it is very seldom that such variations come in typhoid, and they are quite characteristic of sinus thrombosis. To make the diagnosis absolutely complete, the sinus must be uncovered and it must be incised, because the thrombus may not be complete and fluid blood may be obtained by use of the puncture needle. The physician must judge from the amount of blood that flows from the incised sinus as to the presence or absence of a thrombus. Dr. Welty has seen several cases in which the thrombus was not demonstrable by the use of the needle, but by incision it became so apparent that there was no room for doubt. It must be remembered that the patients who are operated on early are those who have the best chance for recovery, and when a physician is dealing with life-saving measures he is justified in more radical procedures. In the second case of chills and fever a diagnosis was made of malaria associated with a suppurating ear. This picture is so characteristic that a specialist should not hesitate to open the sinus if malaria has been demonstrated by microscopic examination. It was found on more careful examination, however, that the microscopist had made a mistake, and necessarily a great deal of valuable time was lost. Dr. Welty has not seen bad results follow the incision of a healthy sinus, and declared that if the operative field is surgically clean no harm has been done and the physician has eliminated a possibility that might have cost the patient's life. In this connection Dr. Welty mentioned a new operation that has been perfected by Professor Grünert of Halle. He removes the whole of the venous channel from one end of the thrombus to the other. Dr. Welty saw four such operations, and the patients all recovered.

Dr. W. H. Roberts, Pasadena, Cal., said that to those who are in the habit of waiting for the cardinal symptoms of sinus thrombosis, namely, chills, fever and sweats, before opening the sinus, the stand taken by Dr. Hastings may seem a little radical, but in cases of sinus thrombosis it is necessary to be radical. It is a mistake for physicians to wait for these cardinal symptoms, which are really symptoms of disintegration of the clot and absorption of the septic material. Operation is distinctly called for in all long-standing mastoid cases. The sinus should be thoroughly uncovered and examined carefully and, if necessary, opened, under proper precautions, to see if there is a free return of blood from both ends. By doing this physicians certainly save more cases by far than they lose.

Dr. H. Stillson, Seattle, emphasized two personal equations. The first has reference to the operator and the other has reference to the patient. It seems to him that the personal equation of the operator has not been sufficiently dwelt on. It is a very easy matter to open a mastoid, but to know what one finds is another thing. It is perhaps a comparatively easy matter to open a sinus, but to open it in a most dexterous way and recognize what one sees without undue manipulation is another question. Dr. Stillson thinks the position taken will depend largely on the skill of the operator. If he is to operate as a barber or blacksmith would, Dr. Stillson would decidedly oppose his opening the sinus. If, however, he has the skill of Dench, who may go into almost any brain with comparative safety, then let him perform the operation on these cases. The personal equation of the patient should be considered. There are patients who do not stand any operation with safety. Since this operation of opening the brain is a very important one for the patient, the surgeon should see to it that the condition of the patient is such that he will best stand the operation. There are many questions to be taken into consideration when contemplating operation in these cases.

Dr. G. A. Leland, Boston, mentioned a case which he reported in 1897 to illustrate the cause of death in these cases. It was a case of sinus thrombosis, with the classical symptoms and with a white blood count of 50,000 to the cubic millimeter. At operation the sinus was opened and the clot cleaned out as far above and below as seemed justifiable; on the eighth day the whites were found to be 10,000. A stiffness of the neck occurred on the eleventh day with very little swelling behind the sternomastoid. Suddenly a leptomeningitis developed and death occurred in two days, the fifteenth day after the operation. In this case the autopsy showed that the clot had been cleared out very well, but that there was a collection of pus below the bulb in the jugular vein. The point Dr. Leland wished to make, which may throw light on the cause of death in some of these cases, is that there was a migration of the micro-organisms with consequent infection of the sinus on the other side of the torcular herophili. The right side being the one operated on, a small antemortem adherent clot was found in the left. If this patient had not died of leptomeningitis, there might doubtless have supervened a septic phlebitis or a pyemia from disintegration of the thrombus on the other side; so that in some of these cases, unless the surgeon can cut off the head and scrape out all the sinuses, Dr. Leland does not see how he can be sure that he will not have deaths. Even though one analyzes the symptoms to the uttermost limit, he may still be unable to save some patients. Dr. Leland mentioned another hospital case in which the patient was being treated for malaria by large doses of quinin. Consultation slips were sent to the throat, the second surgical, and to the aural services because of a marked swelling on the right side of the posterior pharyngeal wall. The two former diagnosticated deep cervical abscess, and transfer to the surgical side was ordered. Briefly, the findings were as follows: A boy, medium height, slim but well nourished, had suffered several years with right purulent otitis media with almost entire obsence of drum-head; lately with suppression of discharge followed by severe headache, chills, pyemic temperature fluctuations; the left shoulder and the right knee were red, swollen and tender, evidently the result of metastases. The outside of the neck was slightly swelled on the right, but on the pharyngeal wall there was a circumscribed tumor, longest in vertical diameter, which did not fluctuate. The diagnosis was obviously sinus thrombosis with embolism and epidural abscess originating in chronic otitic suppuration with involvement of the deep cervical vein. On further consultation operation was decided on. Dr. J. C. Munro ligated the internal jugular near the clavicle, posterior to the sternocleidomastoid attachment. The respiratory blood movements were very marked. Dr. Leland then opened the mastoid process and found the sinus blue, soft, glistening, perfectly normal in appearance, but much distended. Doubt in the minds of the medical men associated in the case began to develop into adverse criticism, felt if not voiced. Yet a small collection of sero-pus—the epidural abscess—was found inside the sinus, inside and posterior to the bulb, at the base of the skull down toward the foramen magnum.

No thrombosis of the lateral sinus could be made out, even down to the bulb, but there was a thrombosis or a phlebitis of some of the communicating veins, and possibly of the inferior petrosal sinus; this morbid process later extended up into the cavernous sinus and caused exophthalmos of the right eye with some involvement of the ocular nerves, and still later even slightly affected the left eye. No further operation was necessary. The patient recovered. Mural thrombi certainly may cause even more grave and far-reaching trouble than those completely occluding the vein. So that there is a great deal to be gained by studying all these little points and making observations as accurate as possible. Special attention should be directed to the number of white blood corpuscles. An important point is the difference in the percentage of the polymorphonuclear leucocytes. If there is a high proportion of polymorphonuclear leucocytes, there is pus in the circulation.

DR. JOHN F. BARNHILL, Indianapolis, declared that in a discussion of this kind, where there enters so much of the experience-meeting character, there is a good chance for presenting the discouraging side of operative work, and the possibility, therefore, of hindering its legitimate progress, yet it must be remembered that otologists have appropriated to themselves a field of surgery that is most difficult. It is to be expected that many of our operative cases will result fatally because of their serious and otherwise incurable nature. There are so many brilliant cases of cure as the result of definitely applied surgical skill that otologists ought at least to take from it a good deal of encouragement. Later they will doubtless have much better reports to make. The point as to where these blood clots may form is worthy of emphasis. The petrosal veins may be thrombosed just as the larger veins. A thrombus may be found in the sinus extending as far as the knee, and yet such thrombus does not constitute the entire trouble. The surgeon is not always permitted to examine fatal cases after death, and, therefore, one does not always know whether he has gone far enough in the operative work. Results must depend on accurate diagnosis, and otologists should in no case fail to go to the limit of their skill in diagnostic efforts. Any aid in making a diagnosis will aid in giving better future statistics. In this connection it might also be stated that physicians are entirely too ready to attribute certain symptoms, or groups of symptoms, to malaria, rheumatism or la grippe. The otologist and rhinologist who thoroughly and skillfully investigate the condition of the open sinuses that lie adjacent to the ear and nose, and practically surround the base of the skull, will frequently find that the symptoms attributed to those diseases can be proved to be caused by sinus suppuration and absorption. The term la grippe has been so engrafted on the mind of the profession that any patient who has some chilly sensations, aching muscles and a tired feeling is said to have la grippe. By most careful investigation of cases, otologists may improve their diagnostic abilities, and through better diagnosis will most certainly result a more hopeful prognosis of lateral sinus and other intracranial ear complications.

DR. ROBERT C. MYLES, New York, said that here is a case that will probably puzzle the supreme court of the United States to determine, and there is no attorney for the defense. No one is interested in the prosecution, except the public, and they will not let physicians help them by making an autopsy. The insurance companies have probably twenty cases of brain abscess to-day where they had one ten years ago. The cases are more frequently recognized at the present time. Dr. Myles has had patients who have laid moribund for weeks with phlebitis, and they are well to-day; patients with obliterating conditions of the veins and sepsis frequently recover. It is rather common in the lower limbs to have a phlebitis from which the patient will recover. It is a question whether a blood clot that is not septic causes so much trouble. Dr. Myles is strongly in favor of operating when there is direct evidence calling for operation; but the brain should not be torn to pieces *ad libitum* on a mere suspicion or guess. His attention has been called to so many cases in which an exploratory incision of the brain has been followed by death that it is evident that surgeons should be more careful.

DR. HILL HASTINGS said that otologists should receive encouragement from the fact that it is only about 18 years since Lane, of England, cured a patient with sinus thrombosis by operation. The case mentioned by Dr. Richards is extremely interesting. The fact that he could not get an autopsy makes the diagnosis uncertain. It was one of those confusing cases that some of the best men worry over. Dr. Cott's case of extensive thrombosis shows that the "cardinal symptoms" are rather unreliable. Dr. Hastings has not seen a case like Dr. Leland's; it was a striking case and teaches much. The problem that confronts otologists in these cases is much like that of appendicitis some eight or ten years ago. A large number of the patients he has seen operated on for mastoid disease should have been operated on earlier. He thinks that is due to the reluctance of the patients and the absence of the swelling and the redness that seem to be regarded as the indications for the opening of the mastoid. When an early mastoid operation comes into vogue it is probably safe to predict that there will not be so many cases of sinus thrombosis; until then there will always be cases that may puzzle physicians a great deal. There are two classes of these cases. In one class belong those cases in which one is reasonably certain, on inspecting the sinus, whether it is thrombosed or not. That class contains the larger number of cases, but there always will be the second class of cases in which the physician will be uncertain whether or not there is a thrombus in the sinus, judging from the appearances. When the physician leaves such cases without opening the suspicious sinus he is uncertain whether he has done the best for the patient. All otologists have seen many mastoids of extensive involvement operated on, but in which the condition of the sinus was not determined, and death from pyemia follows. Many more of these cases in which thrombosis undoubtedly existed at the time of operation are not reported. Dr. Hastings, therefore, is decidedly in favor of opening the sinus in such doubtful cases. The incision should be done under proper precautions. It should be opened with a clean cut with the knife instead of using a needle for the purpose of diagnosis. In some cases sepsis has terminated in recovery without operation on the sinus; but such cases are conceded to be in the minority. He has seen several patients die from thrombosis who he is certain would have had good chances to get well if the sinus had been opened a few days earlier. Whiting has aptly stated that "the time for operation is in the first stage of sinus thrombosis" before the septic disintegration of the clot occurs; and he follows that up with the rather discouraging statement that we can not tell without operation when we have to deal with the first stage of sinus thrombosis. So we must uncover the sinus in bad cases and determine whether it is thrombosed. If in doubt, Dr. Hastings believes it is wise to open it and not to trust to luck. In reply to a question, he said that one can not expect in every case to decide by looking at the sinus; although the cases are comparatively few in which the appearance of the sinus would be as misleading as in the first case mentioned. The "feel" of the sinus, the evidence from the thickness of the wall, and the presence of purulent granulations as a rule help in the diagnosis. He does not believe that any one can tell absolutely without opening the sinus.

THE CARE OF INFANTS IN PUBLIC INSTITUTIONS.*

H. M. McCLANAHAN, M.D.
OMAHA.

It has long been recognized that the care of infants in public institutions presents peculiar difficulties. The mortality is greater among these, in any given disease, than in private practice. The reason why the institution infant has less resisting power is, no doubt, because of its impaired nutrition; and faulty nutrition is probably the result of poor food, bad air and lack of maternal care. It can not fail to have been noticed by all doing hospital work that all infections are more severe among numbers, as in a ward, than among isolated individuals.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The observations on which this paper is based were made in the Child's Saving Institution, Omaha, Neb., and covered a period of four years. This is an eleemosynary institution, supported by public-spirited citizens. It receives infants and children for care and adoption. During the years of 1902-3 the nursery was not in charge of a trained nurse. The women were kind, and did the best they could, but during the summer months of those two years the mortality was unduly large. At the close of 1903 the board of directors gave the superintendent authority to employ a trained nurse to have charge of the infants' ward. I was given absolute authority to make and enforce rules governing the care and feeding of the infants. The death rates for the years 1903-4, from preventable diseases, were very much less than for the two preceding years. This lessened death rate was due wholly, I believe, to the employment of skilled help.

My purpose in presenting this brief paper to the Section is to demonstrate the importance of prevention of disease, rather than to add anything new in the way of treatment. In this connection I wish to make a plea for greater authority for the consulting physician in the internal management of hospitals, particularly for children. He should have knowledge and control of the milk supply. He should have authority to discharge nurses when proven incompetent. The reports which follow are not nearly as complete as they should have been, or as they will be in the future.

During the year 1901, 62 infants were cared for. There were 11 deaths during the year, and of this number 10 died from diarrheal diseases during the summer months. During the year 1902 there were 106 infants cared for. There were 32 deaths in that year. Of that number 26 died during the summer months from diarrheal diseases. During the year 1903 the total number of infants cared for was 92, with 15 deaths. In this year there were no deaths in July, August or September. Almost the entire mortality was in the months of January, March, April and May. Seven deaths were due to pneumonia, four to congenital syphilis, one to purpura, one to congenital heart disease, and in the two others the cause is not given. In the year 1904, 110 babies were cared for, with 15 deaths during the year. Nine of these were due to gastrointestinal diseases, but of the nine dying from this cause eight were admitted already sick with some form of diarrhea, five of the eight dying within twenty-four hours after admission. Of the infants in the institution June 1, 1904, but one developed any intestinal trouble during the summer. I make this explanation in justice to the institution. Of the six other deaths during the year, two were due to pneumonia, two to congenital syphilis and in the other cases no cause was given. The prevention of diarrheal diseases during the past two years was due, in my opinion, to employment of skilled nurses and the rigid enforcement of certain rules which will be given later in this paper.

The infants' ward is a room 29½ feet long, 13½ feet wide, 8¾ feet high, and contains 3,482 cubic feet. As there are never less than twenty-five babies in the ward, each baby has 142 cubic feet of air space. When there are thirty babies in the ward, as is often the case, then each infant has only 110 cubic feet. As we could neither decrease the number of infants nor increase the size of the room, we have been forced to make the best of the situation, and the following expedient has been adopted: There is another ward in the building of the same size. This is used as a sleeping room for the older children. The children are removed from this room at 7 a. m., the bedding is changed, all the windows are opened, and then about 10 o'clock the infants are taken to this room. This gives an opportunity to ventilate thoroughly the infants' ward. During the summer season we have a large tent out on the lawn, open at either end, and the infants are kept here for several hours a day. Twice a week the nursery is fumigated with formaldehyd candles. The floors are wiped daily and the walls brushed down.

Another important matter with me was the care and disposal of soiled napkins, and during the last two years the following method has been adopted. Two five-gallon galvanized iron buckets, with closely fitting lids, are provided. These contain a solution composed of four ounces of common salt and two ounces of sulphate of zinc to each gallon of water. One is used for wet napkins and the other for soiled napkins. The napkins are deposited in this solution as soon as removed, and the buckets are taken to the laundry and emptied once or twice a day. The nurse is not permitted under any circumstances to leave a soiled napkin on the floor. As soon as it is removed it is taken at once and deposited in the bucket. After changing the napkin and before handling another baby or bottle, each nurse washes and then disinfects her hands in a 1 to 3,000 solution of bichlorate of mercury. This rule is rigidly enforced. I am satisfied that in an infants' ward there is more danger from this source of gastrointestinal infections than from the bottles or the milk; that is, a napkin containing the ordinary colon bacillus from a healthy child by careless handling may be the means of infecting another infant, and thereby inducing an intestinal infection.

All our infants are fed on modified milk. During the last two years we have not had a package of infant food in the house. We procure fresh milk in glass bottles, which is kept in porcelain-lined ice chests, at a temperature of 40 degrees. We also procure 20 per cent. cream. During the summer months all the food is Pasteurized. It is a standing rule that when infants receive Pasteurized food they are to receive orange juice once a day. Another rule is that one nurse prepares all the food for a given time. If there is any error, we know where to place the blame. All feeding bottles are labeled with the name of the infant. The bottles are washed with hot soapsuds once a day and then thoroughly rinsed in an alkaline solution. The nipples are thoroughly rinsed after each feeding, and are kept in a boric-acid solution.

Another rule that I have found of great value is this: An infant as soon as it is observed to be sick, whether it be a cough, a rise in temperature or offensive bowel movements, is at once isolated. In this way during the last year we have been able to prevent the spread of any contagious disease through the nursery. During the summer the head nurse is given authority to stop the milk of any baby having an offensive movement. Such an infant is given a dose of castor oil and fed on barley water until it can be examined by the physician.

DISCUSSION.

Dr. John C. Cook, Chicago, said that the education of the nurses for the care of the children is one of the most important, and, perhaps, one of the most neglected subjects in the training schools of the United States. In an institution in which he has a service, cultures from the mouths of children were made and the colon bacillus was found in so many that they stopped the nurses who were giving medicine and food from removing napkins, and ordered that a set of nurse girls take charge of the napkins and cleanse the babies. Unless one has done some bacteriologic work in this line he has no conception of the damage done babies by the unclean hands of nurses. There is no one thing that physicians as a class neglect so much as they do instruction of mothers and nurses. Not only would a large number of the bowel troubles of children be prevented, but many of the other diseases, if this instruction were carried out. Much good would be done to the general public and to the nursing babies.

Dr. Arthur W. Fairbanks, Boston, said that in his city, in a small hospital where they have a large number of the severest form of bowel infection, and formerly a number of cases of apparent reinfection, they have studied the problem and concluded that the nurses' hands have something to do with it. They have instituted a procedure of thorough cleansing of the hands of the nurses, even in changing the napkins of different children, and they have noticed since this has been put into effect a decided diminution in the reinfections. Coincident with this cleansing of the hands they have paid attention to the exclusion of flies, and the results have been most excellent. The nurses who change the napkins do not have anything directly to do with the feeding.

Dr. Alice M. Smith, Tacoma, Wash., finds that many mothers and nurses will put things into their own mouths and then transfer them to the mouths of the children; for instance, the nipple of the bottle is put into the mother's mouth and then into the child's—a most pernicious habit. The fumigation of the rooms and the washing of the floors where children are congregated can not be too much insisted on.

Dr. Kate Lindsay, Boulder, Colo., thinks that there is only one solution of the problem and that is in thorough education. She has found it impossible to get mothers to follow instruction, and her only hope is in educating a nurse and having her go from house to house where children are ill and educate the mother by doing the work before her. Nurses ought to be specially instructed for that purpose.

Dr. C. F. Wahrer, Fort Madison, Iowa, said that physicians should be almost pedantic in teaching the rules of antisepsis and cleanliness. He was recently called to attend a case of abortion in a family whose physician had died during the attendance and he was astonished to find in that isolated farmhouse that they had prepared sterilized water protected. The physician who had preceded Dr. Wahrer had done his duty well. Dr. Wahrer said that he has no sympathy with those men who claim that antiseptic measures can only be carried out in well-appointed hospitals and are impracticable in country districts. He has spent very little time in metropolitan hospitals; he has been mostly in small towns and in country practice, and he has found antisepsis quite practical wherever soap and boiling water can be obtained.

Dr. H. M. McClanahan declared that the point which impressed him in taking charge of an institution was the probability of infection of children from nurses in changing napkins, and some bacteriologic work was done by a young physician there which showed that there was no question as to the source of infection. It is well to remember that there are other sources of infection than that of impure milk. The thorough ventilation of the rooms which was systematically carried out he feels was very important. They did not use any of the patent milk foods and found no necessity for them. Sometimes in children from two days to six weeks of age it was found that the simple whey mixtures, with the addition of cream, were preferable to modified milk.

English as She Is Wrote.—The liberties taken with rhetoric under the banner of science are a source of never ending amazement. This license is particularly glaring in the splitting up of sentences. It appears to be assumed that a succession of adjectives and nouns without prepositions, conjunctions or verbs, is sufficient to convey an idea, and that the precious time of physicians need not be wasted in the reading of a complete sentence. Instances of this are so numerous, especially in reports of cases, that illustrations are not needed. Punctuation is fast becoming a lost art.—*Albany Medical Annals.*

A FOURTH DETAILED REPORT OF THE SUPERIOR AND LASTING RESULTS OF MY BI-INGUINAL OPERATION FOR SIMPLE AND COMPLICATED ASEPTIC RETROVERSION OF THE UTERUS.[*]

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CHICAGO.

Since Professor Kossmann[1] of Berlin has designated this operation by my name in a paper before the Berlin Medical Society, I may be excused for naming it so also, although I have so far applied to it its anatomic name only, notwithstanding that the combination of an extended Alexander operation, with bi-inguinal celiotomy and the Bassini hernia technic in closing the wounds with anchorage of the round ligaments to Poupart's ligaments, was made by me completely and solely in 1893, and performed in at least 75 cases, of which 47 were published, before I learned that any one else also was doing it.

This operation owes its origin and persistent growth, in the face of much opposition, to the mandates of several stern anatomic facts: (1) The round ligaments of the uterus are the only structures connected with it that, as a part of it, are composed sufficiently of nonstriated muscular fibers to undergo growth with it during gestation, and involution also after labor. Striated muscle, no matter from where it is brought, can not be expected to do that; and certainly no other soft tissues will do anything of this kind, but will stretch, at best, during gestation and frequently without this, and will remain long and useless.

(2) The round ligaments of the uterus taper from within outward, so much so that their uterine origins are at least six times as strong as they are at their extraperitoneal, but intra-abdominal portions, which compose their most vulnerable parts.

(3) These weak parts that call for reinforcement or elimination, however, are readily accessible only via the inguinal canals from without, and not advantageously by any vaginal or ventral incision. Accordingly, the operations which shorten the ligaments by these routes, especially those of the Mann, Ries,[2] and Webster[3]-Baldy[4] types, are anatomically wrong, because they shorten them by doubling up their thick, accessible ends and leave the outer feeble and inaccessible portions as weak and liable to stretch as before. Far preferable to these are a numerous class of intramural transplantations of the round ligaments, most of them proceedures advocated during recent years, respectively, by Ferguson,[5] Gilliam,[6] G. H. Nobel,[7] H. T. Byford,[8] F. F. Simpson,[9] E. E. Montgomery,[10] McGannon,[11] Sperling[12]

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[*] Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Berlin klin. Wochft., 1904, No. 25.

[2] Ries, E. J.: The Journal A. M. A., 1901, vol. xxxvii, p. 424.

[3] Webster, J. C.: The Journal A. M. A., 1901, vol. xxxvii, p. 913.

[4] Baldy, J. M.: Amer. Jour. Obstet., May, 1902, p. 650.

[5] Ferguson, A. H.: Amer. Gynecol., December, 1902.

[6] Gilliam, D. T.: Amer. Jour. Obstet., March, 1900.

[7] Nobel, G. H.: Amer. Jour. Obstet., 1903, vol. xlvii, p. 174.

[8] Byford, H., Jr.: The Journal A. M. A., 1903, vol. xl, p. 1190.

[9] Simpson, F. F.: Amer. Gynecol., December, 1902

[10] Montgomery, E. E.: Therapeutic Gaz., 1904, 3 s., 20, p. 371.

[11] McGannon: Amer. Jour. Surg. and Gyn., h. p. 147.

[12] Sperling, Central. f. Gyn., 1904, p. 1033.

and C. H. Barrett.[13] In these commendable operations the round ligaments are separated intra-abdominally from the broad ligaments to a sufficient extent and are then drawn into the median ventral incision or into stab wounds near it and fastened, or with a suitable curved and slender forceps they are passed subperitoneally forward and around the bladder to the internal abdominal rings and stitched fast there to the muscular part of the abdominal wall. Or they are drawn, with a similar forceps, beneath the peritoneum or between muscular layers at or near the internal rings and from there into the median ventral incision or into the ends of a transverse fascial (Pfannenstiel) incision, and fastened there. All these kindred methods of transplanting the round ligaments into the abdominal wall are anatomically consistent: (1) Because they discard the useless outer portions of the round ligaments and place their inner strong portions to do the work, either of suspending the uterus or holding it forward, or partly both, and (2) because all of them, except the Ferguson and Gilliam methods, avoid making transperitoneal bands or bridges.

During the last several years I have treated more patients by one of these methods than by my own operation, for the following reasons: (1) Simple, movable retroversions with healthy appendages are, by me, *largely treated* by pessaries with regular monthly or bimonthly revision and adjustment; (2) in the complicated cases the majority of the patients either have active infectious elements, or strong suspicions of such, still remaining, so that they demand preferably a median ventral section with sight to supplement touch (which I have always chosen for this class); or they have some other disorder like a chronic appendicitis, a widened linea alba, or a ventral hernia that should be eliminated also, or an incidental palpation of a supicious kidney, gall bladder, stomach or bile ducts, determines the choice of a ventral incision; (3) during the very systematic and searching reviews in which my surgically treated patients with retroversion together with the results of pelvic peritonitis have been afterward studied by me to find out the real merits and demerits of my bi-inguinal work, during the last ten years, I have learned incidentally that in the cases of marked general pelvic peritonitis with bilateral salpingo-oöphoritis the infectious elements will frequently die out or become innocent; but quite firm and general adhesions of the uterus and particularly of the adnexæ remain, with follicular, cystic, or sclerotic ovaries and closed and deformed tubes. By liberation of all adhesions, by removing the worst parts of the adnexæ and reconstructing the remainder, chiefly by salpingostomy and resection of ovaries and by securing for the uterus a favorable position and also a better condition by an effective curettement and amputation of a pathologic cervix, when needed, these patients, with few exceptions, can be made well, with or without a subsequent course of general medical treatment, combined sometimes with local massage and a galvanic current, as, for instance, for an old metritis—but they rarely become pregnant.

Before I knew this I treated this class of patients mostly by my own operation, in view of the supposed capacity for conception that they might retain. The Alexander operation is pre-eminently the one to be chosen for fruitful women: and the urgency of its indication is directly proportionate to the reproductive capacity of the patient. This operation stands in the vanguard, practically without a competitor, in the vast amount of anatomic and clinical evidence which it has furnished that it not merely supplies to the uterus favorable conditions for conception and increases its productive capacity, but that it is also able to cope with its critical metamorphoses during parturition and the period of involution. But when this highest function of the uterus has been lost, some one of the above-mentioned methods of utilizing the thick ends of the round ligaments through a ventral incision is good enough to correct the displacement and better for the other indications.

It is the prevailing sterility among this class of patients who are otherwise restored to fair or perfect health by conservative surgery, that induces me not to continue to treat them via the dilated inguinal rings. The surgical indications in these cases of retrodisplacement with adhesions and deformed appendages can be very safely and successfully, although not so conveniently, carried out in that manner, provided that active infectious elements are found no longer present by repeated, careful bimanual examination with properly educated fingers. That this is true I have demonstrated on at least one hundred of such patients with adhesions and other marked complications in the adnexæ who were treated by that method with a mortality rate of 1.5 per cent., with no hernia following, with at least 99 per cent. of anatomic cures (of position of the organs) and 87 per cent. of subjective cures, aside from the predominating sterility. The objection which some men raise to the matter of separating adhesions of the uterus and adnexæ without sight is hardly valid, nor well taken, because these same adhesions in such cases they themselves would liberate usually through a ventral incision of two or three inches, which would usually preclude sight of the adhesions deep down in the small pelvis beneath and around a retroverted uterus. Only after the adhesions have been severed and the parts have been separated is sight really admitted, to assist in repairing some possible damage, it is true, but scarcely to prevent it.

While I *concede that the additional* care, labor and inconvenience of bi-inguinal celiotomy are misplaced when offered up in patients with displacement of the uterus who retain *merely* a nominal reproductive capacity, or none at all—because they will never be in a position *to realize its superior* benefits—I must, however, contend more earnestly than ever, that bi-inguinal celiotomy, *on account of its completeness* and thoroughness, should be made to supplant the old *superficial*, extraperitoneal Alexander *operation* in all cases, at least to the extent of a careful and intelligent digital exploration of the uterus and adnexæ through both inguinal rings, *in order that* certain peculiar conditions and otherwise undiscoverable complications like the following *may be successfully dealt* with, even in the seemingly simple cases:

First: Adhesions of the ovary and abdominal end of the tube are of much more *frequent occurrence* than of the uterus itself, because, in their vicinity, infections *enter the* peritoneal cavity first through its most frequent channel, the endometrium, and the tubes. Adhesions of these small structures are very difficult to discover and are often not suspected *when the uterus* is free and reducible. They were formed on these adnexæ in their descended position, to which they sank in consequence of the retroversion *of the uterus*. When the uterus is brought into anteversion these, its wings,

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[13] Barrett, C. W.: Proc. Chicago Med. Soc., June 21, 1905.

Patient.	Symptoms.	Anatomical Diagnosis at operation.	Additional to bi-inguinal section and date.	Result and convalescence.	Postoperative condition.
1. Mrs. D. F., aged 34 years; iv-para and two abortions; housewife.	Extremely nervous and anemic; menorrhagia and dysmenorrhea; very dyspeptic diffuse pelvic pains.	Extreme retroversion, movable, descended adherent left ovary; cervix with deep laceration and ulceration, with many Naboth follicles.	Curettement; amputation of cervix; resection of both ovaries. Jan. 11. 1902.	Patient died 27 hours after operation, of cerebral embolism.	Left round ligament was traced from the broad ligament outward. Both round ligaments very small; for twenty-six hours after operation patient's condition was very satisfactory, pulse of from 68 to 100, and temperature from 99.2 to 101.2 by rectum; general condition very good, aside from nervousness. Patient suddenly became cyanosed: failure of respiration and death followed within twenty minutes.
2. Mrs. A. R. C., aged 34; multipara; conductor's wife.	Constant pain in left ovary. backache; much headache. almost unable to walk.	Movable retroversion, metritis, endometritis; pathologic cervix; lacerated perineum, prolapse of left ovary and of vaginal walls.	Curettement; amputated cervix; perineorrhaphy; resection of both ovaries. Feb. 1, 1902.	Almost afebrile, course. primary union of inguinal wounds.	Examination June 5, 1905. (Dr. R. L. James). Uterus was anteverted, but sacrouterine ligaments elongated, permitting cervix to slide down, thus taxing round ligaments above. Patient is very corpulent, and has slight descensus of vaginal wall, but is quite well.
3. Mrs. W. B. B., aged 21; 0-para; mechanic's wife.	Anemic; very nervous and hysterical; much heart palpitation, and dyspnea, dysmenorrhea and neurasthenia; marked languor and backache.	Mobile, extremely retroverted uterus; catarrhal cervix, descended left ovary with numerous large follicle cysts.	Curettement, resection left ovary, exploratory incision and suture of right ovary. Feb. 3, 1902.	Afebrile, very comfortable course: complete primary union.	Examination, May 12, 1905. Patient was feeble and nervous for a year after operation, then she became pregnant; normal birth of large child a year ago, with puerperal fever five weeks. Position and condition of organs are now ideal, aside from a little cervical catarrh and occasional backache; nurses big baby and does housework.
4. Mrs. C. S., aged 31, iv-para; laborer's wife.	Fairly nourished but anemic, severe general pains and backache; headache: dyspnea and precordial distress.	Severely pathologic cervix, with adenoma of anterior lip; very large metritic uterus, in extreme but mobile retroversion; descended cystic very tender left ovary; lacerated perineum.	Curettement; high amputation of cervix; intrapelvic, infravaginal perineorrhaphy; resection of one ovary. Feb 10, 1902.	Twelve hours after operation patient very restless almost maniacal, with pulse 106, temp. 103; afterward normal; primary union.	Examination, June 9, 1905. Position of appendages and uterus perfectly normal. Former disabilities all gone, works regularly as scrubwoman, says "I am real well."
5. Mrs. H. B., aged 32; seamstress; widow.	Back and side aches and severe dysmenorrhea.	Extreme retroversio-flexion, fixed by cohesion; endometritis, and descended cystic left ovary.	Curettement, resection of left ovary. Feb. 4, 1902.	Smooth convalescence. primary union.	Report by intimate friend that patient moved away six months ago, was then, and is now, in very good health.
6. Mrs. E. M. W., aged 43, multipara; saloon-keeper's wife.	Constant pains in side and back, headaches; palpitation; intercostal neuralgia; excessive and painful menses.	Metritic, retroverted mobile uterus, severely pathologic cervix lacerated and relaxed pelvic floor and perineum. double femoral hernia; right floating kidney; hemorrhoids.	Curettement, amputation of cervix; perineorrhaphy; 3 hemorrhoids removed by cautery; radical operation for bilateral femoral (omental) hernia, in conjunction with the bi-inguinal operation. March 1, 1902.	Complete primary union: very prompt recovery.	Examination, June 7, 1905. Perfect position and condition of all organs, normal and painless menses: good, robust health, and thinks examination hardly needed.
7. Miss M. W., aged 21; virgin; farmer's daughter.	Disabling severe dysmenorrhea; constant backache; leucorrhea; dyspepsia.	Mobile retroversion and endometritis; close cervical canal; cystic right ovary; very slender right ligaments.	Curettement, resection of right ovary; left round ligament traced from broad ligament outward. March 1, 1902.	Complete primary union; nearly afebrile course.	Examination, June 3, 1905. Married, normal gestation ended six months ago; uterus now in ideal anteversion, and good involution. She has no pelvic or other symptoms aside from profuse menses without pain. She is in good vigorous health and nurses baby.
8. Miss A. P., aged 26, domestic, single, 1-para.	Disabling pain in right side of pelvis and groin; right intercostal neuralgia, backache, leucorrhea, dyspepsia, constipation.	Anteflexed but retroverted and retracted mobile uterus; endometritis, erosion of os; right tube much enlarged, and occluded by ovary with follicle cysts, both markedly adherent.	Curettement, resection of left ovary, removal of right adherent tubo-ovarian conglomerate. March 25, 1902.	Primary union: normal convalescence aside from temperature 102, for a few days.	Examination, May 11, 1905. Anatomic and functional status is normal: no complaint, aside from sterility so far; has been married two years.
9. Miss M. W., aged 16½, domestic; virgin; very large girl; menses at 12 years.	Constant disabling left-sided pain and backache; leucorrhea. menorrhagia and metrorrhagia.	Anteflexed but retroverted and retroponated uterus; catarrhal cervix; left ovary large with follicle cysts.	Curettement, resection of both ovaries; late superficial suppuration of one wound; severe ether (inhalation) bronchitis, with pulse 130, temperature 102.5, respiration 30, as maximum for three days' pain in chest.	Convalescence prolonged by burns of legs from hot water bags.	Examination, May 23. 1905. Normal position of all organs. Was well until a year ago; catarrhal endometritis evidently since then, with excessive and painful menses. She is working regularly as domestic, has severe nasopharyngeal catarrh.
10. Mrs. C. W.; v-para; laborer's wife.	Anemic, poorly nourished woman; constant pain right side and back; dyspeptic, very nervous, dysmenorrhea.	Metritic retroverted uterus: mobile pathologic cervix: both ovaries adherent; right one cystic; right kidney descended.	Curettement, amputation of cervix; removal of right ovary and tube; resection of left ovary. April 14, 1902.	Comfortable convalescence: complete primary union.	Examination, June 15, 1905. Uterus and ovary in excellent position. She is in normal condition also until recent gonorrheal (?) infection. She now has endometritis, and pain in ovary, but does washing and housework.
11. Mrs. N. O. H., aged 39; iv-para and 6 abortions; tailor's wife.	Large, flabby, anemic woman, poorly nourished: intense backache, dysmenorrhea, dyspepsia, nervousness and headaches.	Metritic, retroverted, adherent uterus; ovaries both cystic and adherent; lacerated perineum.	Curettement, perineorrhaphy: removal of right ovary, resection of left ovary. May 1, 1902.	Very smooth convalescence and primary union complete.	Examination, Sept. 10, 1904. Position and condition of uterus good; now in good health. During the first eight months tincture of iodin was applied to endometrium several times, and galvanic current to ovary more frequently; medical treatment, for renal insufficiency and rheumatism.

12. Mrs. T. S. M. aged 32; I-para housewife.	*Intense pain in back and left side; dysmenorrhea, dyspepsia, constipation.*	Uterus broadly adherent; severe endometritis; firm adhesions of both tubes and ovaries, the former closed.	*Curettement; freeing adhesions* throughout; resection of both ovaries; right salpingostomy. May 20, 1902.	Primary union; normal convalescence.	Examination, June 13, 1905. Position and condition of all organs normal, aside from some tenderness of fundus. She has backache sometimes; menses normal; she does housework. Sterile so far.
13. Miss M. B., aged 25; virgin seamstress.	Right-sided pain constantly; severe disabling dysmenorrhea, during entire period; leucorrhea since puberty.	Anteflexed retroverted and descended metritic uterus, mobile; patulous cervical canal; cirrhotic right and cystic left ovary prolapsed.	Curettement; little resection of left ovary; extensive resection of right ovary. May 24, 1902.	Primary union; normal convalescence.	Examination, May 15, 1905. Anatomic condition and position of organs good, but has tenderness of right ovary; former disabling backache, etc., all gone. She has worked almost constantly as seamstress during the last two years.
14. Mrs. R. D. L. aged 21; 0-para one abortion; *office attendant.*	Large robust woman, constant disabling pain in left hip and side; dysmenorrhea and menorrhagia; dyspepsia and extreme nervousness.	Large retroverted mobile uterus; endometritis; left large cystic ovary badly descended.	Curettement, resection and suspension of left ovary. June 4, 1902.	Primary union; nearly afebrile and comfortable convalescence.	Examination, Dec. 15, 1904. Uterus and appendages in good position and fair condition. She has required medical treatment for rheumatism, and at times local galvanism to left ovary for a year, otherwise she is *robust and an efficient office manager.*
15. Mrs. W. T., aged 30; 0-para, one abortion; tailor's wife.	Strong plethoric woman; constant back and left-side ache, dysmenorrhea; sterility chief complaint.	Metritic uterus, in adherent retroversion; large left cystic ovary; descended and adherent, relaxed perineum.	Curettement; perineorrhaphy; resection of left ovary; July 26, 1902.	Smooth convalescence; primary union throughout.	Examination, May 12, 1905. Had good health directly after operation; became pregnant in nine months; normal gestation and labor, normal condition and position of organs two months later; she is now pregnant again six months and in "too good health."
16. Miss A. C. W. aged 30; virgin bookkeeper.	Constant right-sided pain; backache, dyspepsia, severe dysmenorrhea.	Large uterus, in marked retroversion, flexion, mobile; endometritis; descended left ovary; floating right kidney.	Right nephrorrhaphy; curettement; resection of both ovaries; Aug. 4, 1902.	Nearly afebrile, quite comfortable course; complete primary union of wounds.	Examination, June 18, 1904. Uterus anteverted, but also anteponated, from relaxation of sacrouterine ligaments in normal condition. Right ovary now quite painless, after six months' treatment by galvanism; she has some dysmenorrhea, otherwise is well and holds important office position.
17. Mrs. W. H. R. aged 25; I-para; housewife.	Flabby adipose woman, marked dysmenorrhea; constant backache, right-sided pain; dyspepsia and palpitation.	Extreme retroversion; uterus mobile, endometritis; ovaries descended; right one large with follicle cysts; relaxed pelvic floor.	Curettement; perineorrhaphy, resection of right ovary. Aug. 15, 1902.	Complete primary union; normal course.	Examination (Dr. Barnard), May 22, 1905. Normal position and condition of all organs; painless menses; perfectly well, and does full domestic duty.
18. Miss R. G., aged 21; virgin nurse.	Persistent left ovary pain; backache; dyspepsia, dysmenorrhea, menorrhagia, constipation.	Mobile retroversion; fungoid endometritis; cystic left ovary.	Curettement; resection of left ovary. Aug. 15, 1902.	Complete primary union; afebrile, comfortable convalescence.	Examination, June 26, 1905. Position and condition of organs ideally good; menses painless; no pelvic symptoms; robust health, great gain in weight; married two and a half years.
19. Miss M. N., aged 28; virgin; farmer's daughter.	Constant left-sided pain; extremely severe dysmenorrhea, with hysterical paroxysms.	Extreme retroflexion; uterus mobile; large descended, tender left ovary; right ovary less so; long, hard catarrhal cervix; endometritis.	Curettement; internal os constricted, wide dilatation of same; resection of ovaries. Sept. 25, 1902.	Almost afebrile, comfortable course; primary union.	Examination, Sept. 19, 1903. Fundus uteri well to front, but cervix too far anteriorly, owing to too much elongation of sacro-uterine ligaments; she also has marked bearing down discomfort still; right ovary cystic; now ventral section, *and removal of right ovary and tube,* and appendix, round ligaments, suspension of uterus.
20. Mrs. F. M., aged 37; II-para, one abortion; musician's wife.	Anemic, poorly nourished, woman; constant left-sided pain; marked dysmenorrhea; backache, leucorrhea, dyspepsia.	Retroverted, adherent uterus, endometritis, indurated surface after former trachelorrhaphy; cystic and cirrhotic ovaries; buried in adhesions; lacerated perineum. (Dr. Zinke thought he would have removed left ovary.) Sept. 25, 1902.	Curettement; perineorrhaphy; liberating of all parts; suspension of right ovary and tube; resection of left ovary.	Nearly afebrile course; primary union.	Examination, June 15, 1905. Normal position and condition of uterus, tenderness and occasional pain from ovaries; she does all her housework.
21. Mrs. F. K., *aged 36; II-para, one* abortion; housewife.	Nervous, emaciated woman; *constant left-sided pain,* general pelvic aches; menorrhagia and gastric pain.	Large metritic uterus, retroverted, *mobile; pathologic* cervix; endometritis; adherent right ovary and tube.	Curettement, amputation of cervix, liberation and resection of right ovary; removal of left tube and ovary by electric thermocautery. Sept. 29, 1902.	Some temperature; much *nervous disturbance;* primary union.	Examination, Nov. 1, 1903. Normal position of uterus and ovary; has required several strong intrauterine iodin cauterizations for recurring hemorrhagic endometritis; good position of organs, but complains still of backache, dysmenorrhea, and thoracic neuralgia; she is a pronounced neurasthenic.
22. Mrs. H. W. H. aged 30; multipara; working housewife.	Well-nourished, strong woman, severe and constant leucorrhea; constant left-sided pain.	Mobile retroversion, with endometritis; pathologic cervix; painful left ovary; lacerated perineum.	Curettement, amputation of cervix; perineorrhaphy; resection of left ovary. Oct. 2, 1902.	Complete primary union; catheter required for ten days and bladder irrigation afterward.	Examination, June 12, 1905. Perfect position and condition of uterus and adnexa; menses normal, painless; has no pelvic nor other symptoms; gained 20 pounds. Robust health.
23. Miss C. S., aged 36; virgin; dressmaker.	Anemic, very nervous woman; intense backache, constant left-sided pain, dysmenorrhea, dyspepsia.	Extreme retroversion; uterus mobile, with severe catarrhal endometritis; descended, very tender ovaries, cystic and cirrhotic; catarrhal left tube.	Curettement; resection of right ovary; removal of left tube and ovary. Oct. 25, 1902. Bad ether narcosis.	Moderate temperature for several days; primary union but induration of wound.	Examination, June 20, 1904. Position of uterus and ovary very good, but chronic metritis continues; has bearing-down sensations; has digestive disorder, headaches, dysmenorrhea and marked neurasthenia; half capacity as dressmaker.
24. Mrs. A. K., aged 28; widow.	Fairly nourished woman, vigorous frame, backache, dysmenorrhea, menorrhagia.	Mobile retroversion, with endometritis; lacerated perineum; adnexa descended but normal.	Curettement; perineorrhaphy; intraperitoneal palpation of adnexa. Oct. 31, 1902.	Comfortable convalescence; primary union complete.	Examination, October, 1904. Dr. Barnard. Uterus in good position, but patient is pregnant and bleeding from an induced abortion. In good health until now.
25. Mrs. M. M., aged 31; IV-para; working housewife.	Anemic, poorly nourished woman; somewhat neurasthenic; constant right sided pain and backache; leucorrhea, dyspepsia and melancholia.	Extreme retroversion, of subinvoluted uterus; free, endometritis; right ovary very large and partly cirrhotic.	Curettement; resection of right ovary. Nov. 10, 1902.	Little temperature for two days; patient comfortable and cheerful; primary union.	Examination, May 30, 1905. Normal position and condition of all organs, aside from endometritis, since an induced abortion; is in greatly improved spirits since operation; feels well; has full working capacity.

Patient.	Symptoms.	Anatomical Diagnosis at operation.	Additional to bi-inguinal section and date.	Result and convalescence.	Postoperative condition.
26. Mrs. B. W., aged 25; multipara; working housewife.	Slender frame, anemic, very nervous: constant back and side aches, with bearing down feeling; left intercostal neuralgia, dyspepsia, diarrhea, palpitation.	Extreme retroflexion; uterus movable; endometritis, subinvolution; lacerated perineum; ovaries partly cystic and cirrhotic.	Curettement; perineorrhaphy resection of both ovaries Nov. 12, 1902.	Almost afebrile course anxious for solid food primary union.	Examination, December, 1903. In good health during last half year; was nervous and feeble for six months; had one application tincture iodin to endometrium for excessive menses; also general medical treatment; organs now in good position and condition.
27. Miss A. Z., aged 22; virgin; schoolgirl.	Slender build, anemic, nervous; constant backache and right-sided pain; dyspepsia. severe disabling dysmenorrhea.	Extreme retroversio-flexion uterus mobile; large corpus luteum; cyst in adherent right ovary; sclerosed left ovary; two small parovarian cysts in tubal left mesentery.	Curettement; liberating and resection of right ovary; removal of left parovarian cysts. Nov. 20, 1902.	Afebrile, comfortable convalescence; primary union.	Examination, May 8, 1905. Anatomic status and function of all organs fully normal; former irregular menses now regular every 26 days; formerly dysmenorrhea (cramps), now no pains with menses; formerly constipation, now regular bowels, appetite good, no dyspepsia; occasional rheumatism; works regularly.
28. Mrs. C. H., aged 26; i-para; working housewife.	Slender, fairly nourished woman; constant side and back ache; dysmenorrhea, menorrhagia.	Moderate retroversion of subinvoluted uterus; endometritis; ovaries partly cirrhotic, partly cystic.	Curettement; resection of both ovaries. Dec. 15, 1902.	Afebrile, comfortable convalescence; complete primary union.	Examination, May 10, 1905. Normal position of all parts; entirely well until a few months ago; now uterus and left ovary a little tender; slight dysmenorrhea and leucorrhea; does full housework.
29. Miss D. B., aged 22; virgin; domestic.	Slender, anemic, poorly nourished woman; constant left sided pain and backache: leucorrhea; dysmenorrhea: dyspepsia, suspicions of stones in bile passages.	Extreme retroversion; movable uterus; large right femoral ring; endometritis descensus of left cystic ovary.	Curettement, resection and suspension of left ovary ligaments slender and fixed in broad ligaments, requiring careful dissection to develop them. Nov. 25, 1902	Normal recovery; late suppuration on one side.	Examination, Aug. 19, 1904. Position of uterus and ovaries normal, the latter are tender, some dysmenorrhea and diffuse pelvic pains. The patient is anemic, poorly nourished, hysterical and has dyspepsia and more marked disorder of bile passages; only half working capacity.
30. Mrs. J. W., aged 29; 0-para; sterile; housewife.	Vigorous frame, well nourished; severe dysmenorrhea. constant pain in back and left side.	Retroverted, mobile uterus, left ovary and tube extremely adherent; right tube and ovary less so, and cystic; fistula in ano.	Curettement; operation for fistula in ano; difficult but complete liberation of left tube and ovary, also of right adnexa; resection of both ovaries, suspension of left tube and ovary; right salpingostomy. Jan. 8, 1903.	Little temperature; very comfortable convalescence and primary union	Examination, May 18, 1905. Perfectly normal position and condition of all organs in pelvis; menses normal and painless; no symptoms but sterility; robust health.
31. Mrs. H. Y., aged 24; iii para, two abortions; housewife.	Anemic, fairly nourished woman; constant backache and left-sided pain; dyspepsia, constipation.	Metritic retroverted mobile uterus; both ovaries enlarged; right ovary adherent; endometritis.	Curettement; removal of left tube and ovary; liberation and resection of right ovary	Comfortable primary union	Examination. Patient became pregnant after nine months; gestation normal and comfortable, aside from little pain in left scar; labor fourteen hours; normal; child 11½ pounds. Examined March 22, 1905. Position and condition of all pelvic organs normal; robust general health (Dr. Bernard).
32. Miss L. S., aged 39; virgin, nurse.	Fairly nourished; constant left-sided pain and back ache; severe dyspepsia; dysmenorrhea and menorrhagia.	Mobile retroversion and endometritis; very large cystic left ovary, extremely descended; right ovary less so.	Curettement; removal of left tube and ovary and resection and suspension of right ovary. appendectomy with electrothermic forceps through small separate wound, made bluntly, appendix buried behind cecum April 2, 1903.	Primary union and normal course aside from intestinal obstruction for which appendiceal wound was opened and small intestine liberated 30 hours after operation.	Examination, May 22, 1905. Position and condition of uterus and ovary normal; little backache and headache at menstrual time; flow two days; good general health.
33. Mrs. J. A. W., aged 27; 0-para; housewife.	Fairly nourished, severe left-sided pain and backache: dyspepsia and headache: dysmenorrhea; very nervous.	Mobile retroversion and metritis; globular extremely descended left ovary; both ovaries contained follicle cysts.	Curettement; resection of both ovaries: reinforcement of round ligaments with peritoneal envelope. April 9 1903.	Primary union; very comfortable convalescence.	Examination, June 1, 1905. Position and condition of uterus and appendages ideal; no symptoms anywhere except sterility; marked gain in flesh.
34. Mrs. B. K., aged 24; 0-para; working housewife.	Well-nourished woman; severe pain in back and right side; dysmenorrhea; gastralgia and headaches.	Uterus retroverted and firmly adherent; ovaries likewise; marked endometritis; cystic ovaries.	Curettement; liberation of uterus and adnexa; resection of both ovaries; extensive dissection of round ligaments out of broad ligaments. May 25, 1903.	Temperature 102.5 on second day, quickly subsided; fairly comfortable convalescence; ligature abscess on right side after second week.	Examination, May 10, 1905. Condition and position of pelvic organs normal; some backache at menses; sterility only complained of; does full housework.
35. Mrs. T. A. L., aged 21; 0-para; housewife.	Strong, well-nourished woman; constant right-sided pain and backache; painful and irregular menses; headaches.	Retroverted uterus; left tube and ovary firmly adherent; severe endometritis; left hydrosalpinx size of finger; both ovaries cystic.	Curettement; resection of right ovary; removal of left ovary and hydrosalpinx. July 17, 1903.	Afebrile, primary union; sat up in one week.	Examination, Jan. 30, 1904 (Dr. James). Position and condition of pelvic organs very good.
36. Miss I. F., aged 23; virgin; clerk.	Somewhat anemic woman; constant left-sided pain; backache, dyspepsia, constipation, headache, irregular painful menses.	Uterus retroverted and anteflexed, movable; stenosis of cervical canal and internal os; left ovary corpus luteum cyst.	Difficult dilatation and curettement: slight incisions within internal os, cauterized. resection of left ovary; difficult dissection of distal portion of right ligaments. July 20, 1903.	Afebrile, primary union.	Examination, June 4, 1905. Perfectly normal position and condition of pelvic organs; no symptoms; menses now regular, three days and painless; no leucorrhea.
37. Mrs. H. B., aged 22; 0-para; manicurist.	Slender, fairly nourished woman; constant left-sided pain from ovary; severe dysmenorrhea.	Mobile retroversion; descensus of cystic left ovary; left inguinal hernia.	Curettement, resection of left ovary; radical cure of left inguinal hernia. Sept. 21, 1903.	Very smooth and afebrile; complete primary union.	Examination, June 12, 1905. Perfectly normal position and condition of uterus and adnexa; menses painless; no pelvic or other symptoms; is in good health and works regularly.

38. Mrs. D. W., 0-para; working housewife.	Poorly nourished, anemic woman; constant pelvic pains; dyspepsia, gastralgia, extreme nervousness.	Mobile retroversion and endometritis; firmly adherent adnexa; cystic and cirrhotic ovaries; closure of both tubes, left one a hydrosalpinx.	Curettement; freeing of adnexa; resection of right ovary; opening right tube; suspension of both; removal of left hydrosalpinx and left ovary. Sept. 25, 1903.	Temperature 101 for three days; complete primary union; very nervous.	Examination, May 21, 1905. Patient was nervous; had various pains during first six months; received general medical treatment; uterus and ovary in good position and fair condition; great gain in weight; normal working capacity, but bemoans sterility.
39. Miss A. K., aged 30; virgin; cashier.	Stout, well-nourished woman; constant side and back aches; dyspepsia.	Mobile retroversion; catarrhal uterus; cystic left ovary.	Curettement; formalin cauterization; stitching wound of corpus luteum cyst. Sept. 28, 1903.	Afebrile, comfortable; primary union; unusual amount of uterine discharge from cauterization.	Examination, Dec. 24, 1904. Position and condition of uterus normal; right ovary tender and often source of pain; she had amenorrhea five months after operation, with discomfort; in very good health otherwise since marriage six months ago.
40. Miss A. C. V., aged 20 virgin; stenographer.	Fairly nourished woman; constant left-sided pain; severe dysmenorrhea; dyspepsia.	Movable retroversion; cystic descended left ovary; catarrhal uterus.	Curettement; resection of left ovary; removal of hydatid cyst from right tube. Nov. 9, 1903.	Very comfortable, afebrile course; primary union.	Examination, May 13, 1905. Position and condition of pelvic organs normal; menses regular and painless; little leucorrhea; good health; works regularly.
41. Mrs. O. B., aged 22; II-para; working housewife.	Anemic, poorly nourished woman; diffuse pelvic pains, worse on right side; dyspepsia, headaches, nervousness.	Mobile retroversion and endometritis; large and follicular ovaries; lacerated perineum.	Curettement; resection of both ovaries; perineorrhaphy. Jan. 4, 1904.	Smooth afebrile; primary union.	Examination, Oct. 10, 1904. Position of uterus and ovaries normal; excessive menstrual flow; leucorrhea; otherwise well; intrauterine iodin application with syringe applicator.
42. Mrs. S. H., aged 35; III-para; working housewife.	Fairly nourished woman; little anemic; constant backache and dyspepsia; dysmenorrhea.	Uterus extremely retroverted metritic, movable; lacerated perineum.	Curettement; perineorrhaphy. Jan. 7, 1904.	Afebrile; primary union; catheter required one week.	Examination, March 15, 1905. Normal position and condition of adnexa; after four months' medical treatment for rheumatic conditions and local treatment of metritic uterus by massage and galvanism, she has quite good health and strength.
43. Mrs. W. P., aged 23; 0-para; married five years; housewife.	Well-built and nourished woman; constant right-sided pain and backache; dysmenorrhea and menorrhagia.	Retroverted, metritic movable uterus; adnexa both sides adherent; left ovary cystic, right hydrosalpinx.	Curettement; liberation of adnexa; removal of right tube and ovary. Jan. 30, 1904.	Normal; primary union.	Examination, May 23, 1905 (Dr. White). Condition and position of pelvic organs normal; menses normal, painless; normal general health.
44. Mrs. J. L., aged 32; III-para; working housewife.	Patient with rugged muscular frame, constant backache; dyspepsia and great nervousness; obstinate neuralgias in chest and head; menorrhagia.	Metritic movable uterus in marked retroversion; severely pathologic cervix lacerated perineum. Right ovary cystic (corp. luteum).	Curettement, amputation of cervix; perineorrhaphy; resection of right ovary; removal of three hemorrhoids by ligatures. Feb. 4, 1904.	Smooth; primary union.	Examination, Sept. 3, 1904. Position of uterus and adnexa very good and in fair condition, but has required massage and galvanism of uterus for continued metritis for about four months. Patient has renal insufficiency, with some dysmenorrhea and rheumatism.
45. Mrs. W. A. L., aged 31; 0-para; housewife.	Fairly built and nourished woman; melancholic disposition, extreme nervousness, disturbed sleep; pelvic pains not prominent; dysmenorrhea.	Extreme retroversion; uterus mobile, large; ovaries descended and cystic.	Curettement; resection of both ovaries (at patient's house). Feb. 18, 1904.	Some febrile movement stitchhole abscess on one side; almost total intestinal obstruction for two days resolved spontaneously	Examination, Feb. 7, 1905. Uterus rather large in fair not marked anteversion; menses normal; local massage and galvanism of metritic uterus for several months after operation and tonics for a longer time; has gloomy moods still at times, but no pelvic symptoms.
46. Mrs. F. S., aged 37; IV-para and 2 abortions; minister's wife.	Anemic woman; melancholia with maniacal paroxysms; dysmenorrhea; constant backache; intercostal neuralgias; dyspepsia.	Mobile retroversion; marked metritis; lacerated perineum; cystic right ovary.	Curettement; perineorrhaphy: resection of ovary; right ligaments thin and soft; left ligament tore off but stump was caught and anchored in the wound against Poupart's ligament. March 10, 1904.	Comfortable; no nervousness, but late suppuration on one side.	Examination, May 17, 1905. Position and condition of uterus and adnexa very good; no pelvic or other symptoms; former marked melancholia, neuralgia and dyspepsia gone; has quite robust health; took tonics about a year.
47. Mrs. T. C., aged 33; multipara; housewife.	Well-built woman; constant left-sided ovarian pain and neuralgias of leg, loin, chest and arm of same side; backache; dyspepsia; constipation and dysmenorrhea.	Large, metritic, retroverted mobile uterus; left tube and cystic ovary prolapsed and adherent; lacerated perineum.	Curettement; perineorrhaphy: liberation of left adnexa: electric cauterization of follicles in left ovary. July 14, 1904.	Smooth, afebrile; primary union.	Examination, May 30, 1905. Normal position and condition of all pelvic organs; several applications tincture iodin required to endometrium; massage and galvanism of uterus to overcome chronic metritis; robust health; former persistent ovarian referred neuralgias gone.
48. Miss M. R., aged 23; virgin; dressmaker.	Poorly nourished, anemic woman; diffuse constant pelvic pains in sides and back, aggravated during menses; no colicky pains; marked dyspepsia; generaly feebleness and nervousness.	Movable retroversion, with apparent retroflexion; catarrhal endometritis; left ovary cystic.	Curettement; electrothermic cauterization of left ovary; special dissection of right ligaments from broad ligaments. July 23, 1904.	Comfortable; primary union.	Examination, June 12, 1905. Position and condition of uterus and adnexa ideal; menses normal and painless; no pelvic or other symptoms; little leucorrhea; good general health.
49. Miss T. D., aged 25; virgin; domestic.	Feeble build; somewhat anemic; constant left-side and backache; dysmenorrhea; dyspepsia; headaches; unable to work.	Small, extremely retroverted, mobile uterus; catarrhal endometritis; cystic left ovary; imperfect development of organs.	Curettement; resection of left ovary; very feeble right ligaments, strengthened by adjacent peritoneum. Oct. 15, 1904.	Afebrile, comfortable; primary union.	Examination, May 16, 1905. Position and condition of uterus and appendages normal, but patient was too feeble to work for about six months, and required one application tincture iodin to endometrium; galvanism to left ovary several times; tonic remedies all the time; she is now in fair health.
50. Mrs. M. I., aged 25; I-para; working housewife.	Fairly nourished, very nervous woman; neurasthenic since railroad injury six months ago; back and side aches constantly; dysmenorrhea; leucorrhea.	Extreme retroversion, movable; adnexa adherent; endometritis; lacerated cervix; cystic left ovary.	Curettement; Emmett cervix operation; resection of left ovary. Oct. 18, 1904.	Normal; primary union.	Examination, April 1905 (Dr. Bernard). Normal position and condition of uterus and adnexa; normal pelvic functions; patient has ophthalmic goiter.

can not ascend with it, as they should, being fixed at a lower plane. The enforced tension on these sensitive structures entails discomfort on the patient; and the direction of this traction is opposed to that of the extraperitoneal (often imperfectly) shortened round ligaments, which endangers their integrity and tends to induce return of displacement of the uterus. Such adhesions of an ovary and tube are severed with the greatest ease by a finger within the internal inguinal rings, because their natural position, fortunately, is just in front of them.

Second: The round ligament does not always slide extensively enough within the broad ligaments without some special intraperitoneal dissection, to impart forward traction to the uterus directly enough; but by the exclusively extraperitoneal technic it is left to pull from the point of its entanglement in the broad ligament, several inches away from the uterus, which manifestly predisposes to a recurrence of retroversion. This condition will be found once in every four or five individual ligaments dealt with, even in simple cases, according to my observations in at least 130 cases, if the effect on the uterus of traction on the shortened ligament be noted each time by a finger introduced alongside of it. This condition is readily corrected by a little dissection around the ligament when this is drawn into the slightly dilated inguinal ring.

Third: In the rather frequent cases of retroversioflexion with a heavy fundus the center of gravity of the body of the uterus is often posterior to a line joining the points of origin of the round ligaments, while the posterior cervical attachments are relaxed and allow it to rise forward. In this condition traction on the round ligament will raise the cervix still more forward quite as often as it will raise the fundus, unless it is quite completely dissected out from the broad ligament on each side and is given a new course almost directly forward. Koenig and Feuchtwanger[14] have also observed this. This dissection and development of the round ligaments in such cases is readily done through the merely dilated rings.

That such intraperitoneal exploration and manipulation needs to be added to the simple Alexander operation, even in the simple cases, is indicated by results of that operation as reported, for instance, by Longyear,[15] who in 58 cases had five recurrences of displacement, even without any test of pregnancy affecting them at all. In consequence of his working outside of the inguinal canals likewise, he did not find either round ligament in one case, and only one in another case. Such inability to find the ligaments is a worse failure of such superficial technic than is a recurrence of displacement after the operation. It is certainly not unfair, therefore, to count such failures with the recurrences of retroversion. These two added to the five recurrences in the Longyear report makes 12.5 per cent. failures in all. This is about equal to the results of the simple Alexander operations as reported by a number of German operators, particularly those who aim not to open the inguinal canals according to Alexander.

Such results are not satisfactory when it is considered that the operation is never a life-saving one, never done for grave indications, and that non-surgical means could largely have been substituted; and, in view of the fact that I have now 155 examined cases, the majority of which were complicated, so much so that pessaries, etc., were out of the question and surgery was positively the only resource. The patients were all carefully examined, on an average nearly two years after operation and only one case of return of displacement was found among them; no hernias, while some fifteen hernias, at least, were incidentally cured; and twenty-one patients who bore one or more children, all passed the double test of pregnancy successfully. Among those gynecologists who, on account of such considerations, have been induced, like myself, to extend the bounds of the Alexander operation, and to give the larger class of complicated cases of this kind the superior benefits of a more thorough bi-inguinal shortening of the round ligaments, are the following: Professor Fritsch of Bonn removed a tubercular tubal tumor through the inguinal ring, and canal incidentally. Barth[16] of Danzig says that an adequate technic for the Alexander operation was only secured when Kocher opened the inguinal canals in doing it. Barth does this and also opens the peritoneum to sever adhesions and to prove the position of the uterus. Rosinski[17] of Koenigsberg opens the peritoneum to get the ligaments dissected out sufficiently. Heinrich[18] of Bremerhafen advocates opening the peritoneum for similar reasons and says that Professor Zweifel of Leipzig does so also. Professor Kossmann[1] of Berlin, last year reported about twenty cases in which he had performed what at that time he baptized as "the Goldspohn operation." Sigmar Stark[19] says that he has been doing this bi-inguinal celiotomy by a little different technic and claims not to have known until two years ago of any of my seven articles on this subject that were out then. McKay[20] of Sydney, Australia, does by this bi-inguinal celiotomy substantially what I do and says, "I found out later that Goldspohn anticipated me; but I can from my experience in the procedure fully endorse his remarks on this innovation, and I have no doubt that it will be only a matter of time when this addition to the Alexander operation will be adopted on all sides . . . Such an easy matter is it to explore the ovaries and tubes through the internal ring, that I am now adopting this method in preference to the median incision when I wish to remove a small ovarian cyst or hydrosalpinx" (in connection with a retroversion, of course).

During the years 1902, 1903 and 1904 I performed this operation on 55 patients. One patient died after 36 hours of very satisfactory condition, from all the signs of cerebral embolism, which suddenly developed, and ended inside of 20 minutes. Of this number five were not accessible for examination, but 49 were examined by me or one of five other physicians after an average interval of twenty-two and one-half months after operation, and are reported in the detailed table. In five of these the uterus was adherent. In nine cases the adnexæ of both sides were adherent and in five of those on one side only. Three hernias were cured incidentally. The tube (five times a hydrosalpinx) and ovary were removed through the dilated rings on the right side four times and on the left side six times. Cystic follicles and corpora lutea or hard cirrhotic portions of ovaries were excised from the right ovary 26 times and from the left ovary 31 times. In a few, this was done by thermocautery. Lateral suspension of tube and ovary was made twice on the right and four times on the left side. Salpingostomy was done twice. Small parovarian cysts were removed twice. Primary union of the inguinal wounds occurred in all but five cases in which a stitch hole abscess or late catgut suppuration ensued on one side. As collateral operations at the same sitting the following were performed: Currettements 49, amputation of cervix 7, Emmett operation 1, my intrapelvic infravaginal perineorrhaphy 15, hemorrhoids by cautery 6, appendectomy by separate small wound made bluntly 1, right nephrorrhaphy 1. Among this group of cases three confessedly induced abortions were reported, and four cases of normal labor at term. In addition to the latter, six cases of normal gestation and labor were also found among the group of cases previously reported—making ten new such "double test" cases to be added to the eleven that I had before, or twenty-one in all; each patient was carefully examined afterward and the uterus found in rather more pronounced anteversion and usually in good involution. The same may be true of two others of whom examinations could not be had as yet. Since my last report I have noted the following similar cases reported by other operators in which the patients were examined after a subsequent labor and found to have no recurrence of displacement, thus having passed what I termed the double test of pregnancy successfully: J. R. King,[21] 3 cases; Professor Fuchs, Werth-Kiel, 6 cases and 1 temporary recurrence; Reiferscheid.[22] Bonn, 9 cases; Steidl,[23] Strassburg. 4 cases: Haid.[24] Buffalo, 12 cases; R. H. Car, Chicago, 5 cases; Heinrich.[25] Bremerhafen, 5 cases; Morlaender.[26] 1 case; John G. Blake.[27] Boston, 3 cases; W. M. Conant,[28] Boston, 6 cases; F. W. Johnson,[29] Boston, 12 cases; L. H. Boldt,[30] New York, 4 cases; P. F. Munde,[31] New York, 4 cases, and W. M. Polk,[32] New York, 4 cases. These, with 10 cases of mine, make 88, of which one only was a temporary recurrence. These are separate from a collection of 80 such cases that I reported three years ago.[33] among which there were two recurrences of displacement (in patients operated on for prolapse). Thus we have 168 cases in all, with only three failures and those for special reasons mostly. Furthermore, Dr. F. W. Johnson says "Dr. Cleveland, New York, with a large experience with the Alexander operation, and Dr. Edward Reynolds, Boston, who has confined many such cases, have never seen a return of displacement in cases after labor following the Alexander operation.

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[14] Koenig and Feuchtwanger: Monats. f. Geb. u. Gyn., vol. vi, p. 344.

[15] Longyear: Amer. Jour. Obstet., November, 1903, p. 668.

[16] Barth, Deutsch. med. Wochft., 1904, p. 262.

[17] Rosinski: Deutsch. med. Wochft., 1904, p. 262.

[18] Heinrich: Muench. med. Wochft., 1901, xlii, p. 1676.

[19] Sigmar Stark: Cincinnati Lancet,Clinic, June 3, 1905.

[20] McKay; Australasian med. Gazette, 1904, vol. xxiii, p. 327.

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[21] King, J. E.: Buffalo Med. Jour., 1904-5, vol. xliv, p. 374.
[22] Reiferscheid: Arch. f. Gyn., 1904, vol. lxxiii, p. 159
[23] Steidl: Monats. f. Geb. u. Gyn., 1904, p. 234.
[24] Haid: Amer. Jour. Obstet., November 1904, p. 706.
[25] Heinrich: Naturforscherversamml., Hamburg, Sept. 27, 1901.
[26] Morlaender: Zeits. f. Geb. u. Gyn., vol. xlvi, p. 100.
[27] John G. Blake: Amer. Jour. Gyn. and Obstet, April, 1896, p. 460.
[28] W. M. Conant, Amer. Jour. Gyn. hnd Obstet., April 1896, p. 460.
[29] F. W. Johnson: Amer. Gyn. and Obstet. Jour, April, 1896, p. 460.
[30] L. H. Boldt: Amer. Jour. Gyn. and Obstet, April 1896, p. 460.
[31] P. F. Munde: Amer. Jour. Gyn. and Obstet., April, 1896, p. 460.
[32] W. M. Polk: Amer. Jour. Gyn. and Obstet, April, 1896, p. 460.
[33] The Journal A. M. A., June 5, 1902.

Did a subscriber ever stop to consider the slur cast on his intelligence when matter writen in the advertiser's office is printed as a legitimate contribution?—*Archives of Physiological Therapy.*

THE CONSERVATION OR RESTORATION OF NORMAL ANATOMY IN GYNECOLOGIC SURGERY.*

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BOSTON.

During the past few years a great wave of conservatism has agitated the entire gynecologic fraternity, not only throughout this country, but also Europe, although it must be admitted that conservatism has not yet achieved the following it deserves even here. The French and to a less degree the English and German gynecologist still vastly prefers to do a high amputation of the cervix or even a vaginal hysterectomy in cases in which better symptomatic, functional and anatomic cures, together with a more complete conservation of the child-bearing function, may be obtained by a tracheloplasty. In France it is true that ovarian conservation has received great stimulation by the well-known work of Jayle and his confrères in regard to the internal secretion of the ovary. In our own country I feel certain that I am not overstating the fact when I say emphatically that it is now a very rare occurence for a competent gynecologist so far to forget or to neglect the principles designated in the title of this paper as to remove or to sacrifice a healthy, or even a healthy portion of an ovary. This subject, however, has been too frequently and too well exploited by others to demand especial consideration here.

My desire in bringing to your consideration this paper is to extend this tendency to conservatism to include two more large classes of cases which have been often and hotly debated, namely, uterine displacements and plastic gynecologic surgery. If this paper differs from my former papers in showing little, if any, evidence of original research work, its justification must be sought in the extemporaneous remarks of Dr. Seth C. Gordon, of Portland, Me., on the occasion of the complimentary dinner tendered him in honor of his fiftieth year of medical practice on the 6th of June last, in which he said that the highest attainment of any medical man was the ability to think for himself and to form independent, if not original, opinions on each subject, and I ask you to accept what follows as the result of such independent and, perhaps, original thought.

That the paper and its discussion may not be too broad for careful consideration, I have omitted any discussion of the merits of the treatment of uterine displacements by pessary, and shall assume in the following that we are dealing only with cases in which operative treatment has been deemed advisable.

One of the most thoughtless and unscientific assumptions ever made in this connection not only by the medical profession as a whole, but even by many able gynecologists, is that the multiplicity of operative procedures advocated by various operators bears evidence to the fact that no one satisfactory operation has as yet been devised. This, as I shall attempt to prove, is utterly fallacious. It is not only true that one satisfactory operation has been described, but that many such absolutely rational and scientifically, anatomically and symptomatically satisfactory operations have been advocated and are in daily use.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

If any error can be greater than the one just outlined, it is that of assuming that, since some one favorite operation appeals to the appreciation of the rational in gynecology, it is right and wise to adopt that operation and to employ it in the treatment of all cases of the particular form of displacement for which it is considered a remedy. Empiricism is hotly condemned and denied throughout the whole realm of medicine, and yet such an adoption of one operation for all cases of any given uterine displacement constitutes nothing short of extreme empiricism.

To me it seems that the multiplicity, all too limited, testifies to the infinite variety anatomically manifested by such cases and also to the originator's rebellion against the former empirical employment of methods unsatisfactory in certain respects in certain cases. Moreover, being convinced that the originator of each of the better known operations does not in his own practice consider his operation by any means an universal panacea, nor use it exclusively in all his operative cases, I addressed the following letter to each of twelve American originators of such operations:

I am preparing a paper for the coming session of the American Medical Association entitled "The Conservation or Restoration of Normal Anatomy in Gynecologic Surgery." In treating of this subject I wish particularly to commend such operations as restore uterine displacements through the employment of the uterine ligaments, and as you have originated and publicly advocated such an operation, I shall greatly appreciate answers to the following questions:

1. Do you find your operation applicable to all, and do you employ it in all cases of uterine retrodisplacement in which you operate?
2. If not, in what percentage, approximately, do you employ it?
3. Am I at liberty to quote your reply in connection with my paper?

Nine of the twelve gynecologists thus addressed replied at much length, and each and all granted leave to quote their replies, for which I sincerely thank them, and from which I will quote.

Dr. Baldy finds his operation applicable to most cases except those in which, through concomitant or previous operation the round ligament on one or both sides is absent.

Dr. Bovée says: "I do not find my operation applicable to all cases nor do I employ it in all cases of uterine retrodisplacement in which I operate. There are various conditions, such as deep laceration of the cervix, the presence of tumors in the posterior wall of the uterus, habitual constipation with straining at stool, habitual retention of urine, mal-attachment of the uterovesical and uterosacral ligaments to the uterus which may cause retrodisplacements of the uterus, and especially is this so of appendage disease. In such cases, operation on the uterosacral and round ligaments would be manifestly unadvisable."

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Dr. A. Palmer Dudley, New York, finds his operation applicable to about one-fourth of his cases.

Dr. Gilliam says: "I find my operation applicable in all cases, except such as those in which the ligaments are preternaturally short and the uterus is held rigidly in retroposition by conditions that can not be overcome. The percentage is exceedingly small."

Dr. Goffe says: "I wish to say unhesitatingly that I find my operation for the cure of retrodisplacements of the uterus applicable to all cases in which I operate primarily for the displacement.. Sometimes, in cases in which I have submitted a patient to laparotomy, for the relief of conditions other than displacement or complicating it, I shorten the uterosacral ligaments and fortify this procedure by shortening the round ligaments also. In patients at or near the menopause requiring multiple repairs, such as trachelorrhaphy or amputation of the cervix, perineorrhaphy, etc., for brevity I frequently do a vaginal fixation. My operation, however, is the standard procedure."

Dr. Kellogg, finding his original operation inadequate, has devised a second operation, and now rarely needs any other.

Dr. Mann says: "I do not employ it in all cases, but only in those in which for some other purpose I am obliged to open the abdomen, or when the Alexander operation has failed. I do four operations for displacement: the Alexander, my operation for internal shortening, Kellogg's operation and ventral fixation, not suspension.

Dr. Newman says: "In all cases, when it is not necessary to open the abdomen for other work, I employ my 'high or direct' operation for shortening the round ligaments and with uniform good results. When celiotomy is necessary (for intra-abdominal complications) I shorten the ligaments by the intra-abdominal methods."

Dr. Wylie disapproves of ventral suspension and fixation, and reserves his own operation for those cases in which opening the abdomen is necessary for complications, doing the Alexander operation when celiotomy is not necessary.

My reason for making these excerpts at such length is that they seem more potent than any other argument I could offer. When a man has patiently evolved an operation, it becomes to him almost as a part of himself, and any overenthusiasm manifested by him in its behalf is as easily excused as is the more exalted idea of a child excused in its parent. Moreover, we might reasonably expect its originator to be more expert than others in its application and to expect and actually to achieve a greater percentage of successes by its employment than any one else. It seems to me, therefore, that when the foregoing nine gynecologists, each and every one, find from a few to many cases requiring some other operation than their own, it is a strong argument in favor of a great familiarity with the greatest possible number of rational operations for the same condition. In other words, these replies to my letters confirm absolutely my contention, namely, that no one operation will fulfill all indications and that, therefore, a multiplicity of operations is an essential to a broad success. Just here permit me to insist that there is one attainment the possession of which by any operator transcends all other abilities; I allude to mechanical ingenuity.

It is well nigh impossible for the present generation of gynecologists to attain a degree in medicine without a good fundamental education in the anatomy, physiology and pathology of the pelvic organs of women, and we can, therefore, assume that such knowledge is theirs. Assuming that due consideration is given to the functions which the pelvic organs must perform, it is my contention that the operator, having thoroughly familiarized himself with the greatest number of operative procedures for any given condition, and possessed of sufficient mechanical ingenuity to vary any given operation to meet the requirements of his individual cases instead of following absolutely the originator's description, or, if need be, of combining the indicated portions of two or more such operations so as to restore the closest possible approximation of the original normal anatomy, will give the greatest measure of relief to his patients.

No discussion of the merits of any method of operative treatment of retrodeviations of the uterus is complete without comparing the merits of the utilization of the normal anatomic structures with the demerits of the introduction of adventitious, artificial and unnatural uterine supports. In the latter class I, of course, allude to ventral fixation and suspension and vaginal fixation.

I am not prepared to say that ventral fixation or suspension or vaginal fixation are absolutely unjustifiable operations, but I am prepared to say that they are performed far more often than indicated or even justified. This is true for several reasons. The ventral suspension and fixation are by far the easiest operations performed within the abdomen and can be done by any tyro, their safety merely depending on his appreciation and practice of asepsis. No minute knowledge of pelvic anatomy is required, because the operation itself is a violation of every unit of such anatomy.

The only cases in which I have ever considered myself justified in doing a ventral suspension or fixation have been cases in which through concomitant or previous operations, developmental arrest, atrophy due to long persistence of untreated disease, or senile degeneration, the normal supporting structures of the uterus were absolutely unavailable to secure it in its restored normal position. Believe me, if I could only happily convince all physicians that the foregoing constitute the only rational indications for these two operations, and that their performance under any other circumstances constituted an acknowledgement either of inability on the operator's part to do good work with the sufficiently abundant material which Nature has provided and with which the work was originally done, or an inexcusable indifference to the best interests of the patient, these operations would be very rarely performed. Furthermore, should the time ever come, as I hope it will, when these views are widely held, our successors will look back on the era of the undue prevalence of these two operations much as we now look back on venesection.

It is not to the performance of ventral suspension and ventral fixation in properly selected cases by expert operators of wide experience and established ability, possessed of expert selective judgment, that I object. These operations have been advocated and performed by the best gynecologists of the world, and in proper cases—which each year are being more carefully selected, and hence are fewer in proportion to the total number of operations for such conditions—with generally satisfactory results, and this fact alone gives them a valid standing, always, be it understood, in proper cases only.

My objection to the performance of ventral suspension is because of its ease, simplicity and safety by incompetent and inexperienced operators who would not be competent properly to adjust the uterosacral, round and broad ligaments, and who, if ventral suspension had never been devised for them, would still be using the comparatively harmless pessary or referring their patients to competent operators.

It is the too frequent performance of these operations by these occasional or inexperienced operators in cases in which none of the above-named indications for ventral suspension exist, that furnishes the abundant material for dystocias, intestinal obstructions, painful abdominal wounds and other undesirable sequelæ not infrequently observed.

The degree of surgical skill and address necessary for the performance of the operations involving the shortening of the round ligaments, the shortening or transplanting of the uterosacral ligaments and the transplanting of the uterovesical attachment to the cervix with the very vague structures known as the uterovesical ligaments should not be exaggerated. They are all comparatively simple operations, provided only that the operator knows thoroughly his normal anatomy, has the proper instruments and is well based in the technic of the operation which he has elected to form the foundation of the individual operation. For example, so much has been said and written relative to the difficulty of isolating the round ligaments according to the technic of Alexander that in ten consecutive, unselected cases since having this paper in mind I have had my anesthetist accurately note the physical condition of the patient and the time consumed between the making of the initial skin incision to the complete isolation of the round ligament

The findings I have tabulated as follows:

CASE 1.—Patient slight..........	Right ligament	3 min. 10 sec.
	Left ligament	2 min. 35 sec.
CASE 2.—Patient slight..........	Right ligament	2 min. 45 sec.
	Left ligament	3 min. 25 sec.
CASE 3.—Patient moderately stout.	Right ligament	3 min. 20 sec.
	Left ligament	3 min. 15 sec.
CASE 4.—Patient stout..........	Right ligament	11 min. 40 sec.
	Left ligament	3 min. 20 sec.
CASE 5.—Patient slight..........	Right ligament	4 min. 15 sec.
	Left ligament	1 min. 55 sec.
CASE 6.—Patient moderately stout.	Right ligament	8 min. 30 sec.
	Left ligament	3 min. 10 sec.
CASE 7.—Patient slight..........	Right ligament	4 min. 50 sec.
	Left ligament	3 min.
CASE 8.—Patient moderately stout.	Right ligament	7 min. 20 sec.
	Left ligament	4 min. 50 sec.
CASE 9.—Patient stout..........	Right ligament	6 min. 20 sec.
	Left ligament	5 min. 35 sec.
CASE 10.—Patient slight..........	Right ligament	2 min. 40 sec.
	Left ligament	2 min. 15 sec.

This table shows that in these ten cases which were ordinary and unselected, being consecutive, the longest time consumed in isolating the round ligament was in Case 4, in which, through much oozing of blood from a thick, fat layer, the structures becoming obscured by blood staining, 11 minutes and 40 seconds, practically 12 minutes, were consumed in isolating the *first ligament*, only 3 minutes and 20 seconds being required on the left ligament because information acquired in isolating the first ligament always makes the isolation of the second quicker. The average time per ligament was 4 minutes and 27½ seconds, which I feel certain can not be considered excessive, and I feel no hesitation in saying emphatically that any material lengthening of the operation is invariably due to the lack of knowledge of the regional anatomy, a fault easily overcome, or to a careless disregard of proper technic as it was in the isolation of the right ligament of Case 4.

The uterosacral ligaments are not well understood or are misunderstood by many, but when their anatomy is once mastered, which is not in the least difficult, I feel certain that every surgeon who has had experience with them will sustain me in the statement that their isolation and manipulation are relatively easy.

Being, then, possessed of such good means of restoring and conserving normal pelvic anatomy by the employment of only its natural ligaments, except as previously indicated, why should we, through indolence or indifference, fasten the uterus either mediately or immediately to the anterior abdominal wall in a way never accomplished by Nature, in a position as far removed from normal as its retrodeviation for which the operation was undertaken, and with new relations which may interfere to a greater or less extent with the performance of some one or more of its functions unless for very special indications? Last and most important of all, why, when avoidable even at a far greater expenditure of time, energy and skill than is ever demanded by the other operations, put a false band with all its baneful possibilities across from one to several centimeters of the abdominal cavity, when every surgeon in the land would consider himself highly culpable if on accidentally discovering such a band under any other circumstances, he closed the abdomen without first safely removing that band? It is useless to say that such bands do no harm because they may do just as much harm as any other similar false band. It seems little less than a miracle that it has been reported so seldom, but I have personal knowledge of two cases, one terminating fatally, in which subsequent operations were demanded for intestinal obstruction due to such suspensory ligaments, and Dr. J. M. Baldy long ago reported nine such cases. Such risks are, or at least may be, legitimate when urgent symptoms demand relief and no other means offer an equal chance for successful relief, but not otherwise.

All that has been said of the benefits of the multiplicity of methods for the operative treatment of retrodisplacements applies equally well to the plastic operations for the repair of injuries of the birth canal.

How often we read or hear an article warmly advocating some particular method of tracheloplasty or some particular manner of amputating the cervix. This seems to me unwise and unsound if the method is offered as a substitute for others. As a supplement it should be welcomed. Learn thoroughly the basic, fundamental principles of all such operations. Accept what is sound and be prepared to use such principles of any one or several operations as the personal equation of the individual patient may require. It necessitates much work, but the end justifies the means, and those of us who have foresworn all other practices owe it to our patients and to our consultants to know the whole field as thoroughly as work can enable us to learn it. It was to gain time for such work that the other practice was relinquished.

I was greatly pleased at the last session of the American Gynecological Society to hear, as a guest, Dr. E. C. Dudley, in his presidential address, invite the greater attention of the members, and hence, of course, of gynecologists in general, to the performance of plastic, so-called minor, gynecologic operations and to deplore their too frequent relegation to assistants. I consider the restoration to its original normal relations of an old lacerated perineum as the most difficult of gynecologic operations, and I should consider the characterization of a man as a good plastic operator as the highest possible commendation. It is minor gynecology only in the sense of danger to the patient's life. It is probable that no operation is more frequently unsuccessfully performed, especially when the original laceration has led to a complicating cystocele and rectocele.

Here, again, no one operation will mend all cases. It is futile to exploit the advantages of the Hegar, the Tait or the Emmet operation as possessing ability to cure more than a certain percentage of cases. Only two considerations can determine the operation to be performed, namely, the location, extent and direction of the original laceration and the absolute necessity of removing all cicatricial tissue in order that the torn or separated muscles may be so placed as once more to perform their lost functions. Since it is rare to find two tears exactly alike, it is obvious that each of all the operations thus far described have their indications, and it is equally obvious that now and then a laceration will be found which no known operation will exactly repair. Regardless, then, of the size or shape of the adventitious tissue to be removed, the operation must completely remove all tissue abnormally present as the result of the laceration, completely exposing the separated muscles. A mere epithelial denudation is entirely inadequate, as it does not eradicate, but merely lessens the amount of such tissue.

I have no operation to prescribe definitely, but the principles above indicated are applied, with variations to suit each case, as follows: The size and direction of the tear is determined by palpation and inspection of the vaginal mucous membrane, and the outline of all tissue included within the cicatrized area is lightly marked with a sharp scalpel, irrespective of its size or shape. Parenthetically, I may say that an irregular approximation of the denudation suggested by Emmet obtains in about 65 per cent. of the cases. It will be found that this outline invariably terminates at the lowest remnant of the hymen on one or both sides and at some point high or low in the median line.

Having completed this outlining process, which requires but two or three minutes, the entire thickness of the mucous membrane is picked up on a tenaculum or with tooth forceps near and just internally to the lowest point of the hymenial remains and is cut entirely through into the loose areolar tissue. The opening is then carefully enlarged inward until it will admit the tip of the index finger. The entire outlined area is then freed from the underlying muscles and rectum by blunt dissection with the finger only in this loose areolar layer, and as soon as the outline has been slightly passed the entire mass is excised.

The remaining portions are now sutured in whatever way will best serve in the individual case to restore the parts to their original relations. Bleeding is free, but never serious and can always be controlled by the sutures without the necessity of tying any vessels, however the sutures are placed. The only necessity is that care be taken to place them well into the muscles and to avoid either perforating the rectum or allowing dead spaces to remain.

CONCLUSIONS.

The conclusions to be drawn from the work which has inspired this paper are:

1. The greater the number of ways devised for utilizing the normal uterine ligaments for its restoration and retention in its normal position the better, so long as they are rational and safe and considered as supplements to instead of substitutes for each other.
2. Every surgeon, whether specialist or general practitioner, intending to operate in such cases owes it to his profession and to his clientele to familiarize himself with all known methods and to be prepared to use any or all or to modify any or all of them to meet the demands of each individual case.
3. The skill and time required to utilize the natural ligaments are not excessive.
4. The formation and utilization of adventitious ligaments within the abdomen should be reserved for cases manifesting special indications.
5. The operations of ventral suspension and fixation should not be performed because of their ease by pseudo-surgeons who could not competently operate by using the natural ligaments.
6. The individual case should determine the method for each tracheloplasty or cervical amputation for the relief of laceration.
7. Only principles, not details, can be definitely described for the plastic repair of the lacerated perineum.
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DISCUSSION

ON PAPERS OF DRS. GOLDSPOHN AND CRAIG.

Dr. C. O. Thienhaus, Milwaukee, agreed with Dr. Craig that for retroflexion of the uterus there are many methods of operation which give satisfactory results, and that the surgeon who has perfected himself in one method and knows not only how to do it, but the indications for it as well, will have excellent results, while others will fail. In the majority of failures it is not the method which is at fault, but the inexperienced operator. Five years ago Dr. Thienhaus advocated the vaginal route and the vaginal fixation either after Mackenrodt's or Dührssen's method for retroflexion of the uterus, and he has had no reason to change his views. Women will consent more readily to operation by the vaginal route, and if this can be performed with the same success and the same immediate and future safety for the patient as by the abdominal route there is no reason why it should not be chosen. By doing a vaginal fixation it is possible to avoid all the objections which are raised to abdominal fixation and suspension, namely, abnormal position of the uterus and the formation of bands, which may cause ileus. Experience, he said, has also shown that when Mackenrodt's or Dührssen's method is used there is absolutely no danger of disturbance during future pregnancies. Dr. Thienhaus has seen eight pregnancies following vaginal fixations which he had performed after Mackenrodt's method (in one case two pregnancies), and in not one of them was there any disturbance attributable to the fixation, during pregnancy or confinement. He does not use the vaginal route for every case of retroflexion. When the retroflexed uterus is imbedded in dense adhesions or when there is sufficient reason to believe that together with a retroflexion of the uterus a disease of the appendix is present he always uses the abdominal route. In 1902 Dr. Goldspohn challenged Dr. Thienhaus to show him literature that would state that Dührssen had so few recurrences. Dr. Thienhaus showed that literature.

Dr. W. O. Henry, Omaha, said that he extends the vesicouterine ligaments upward on the anterior surface of the uterus without dissecting the bladder free from the uterus. The abdomen is opened, all adhesions are broken up, and whatever plastic work is required is done on the appendages, then the peritoneum is carefully scarified in the cul-de-sac between the uterus and the bladder, and the scarification is extended up on the uterine wall in line with the vesicouterine ligaments as far as may be necessary, depending on the size of the body of the uterus, then the bladder is sewed to the uterus for the distance of about one-quarter of an inch with a simple catgut ligature, the vesicouterine ligaments are picked up and sewed to the scarified surface with a like catgut ligature. This simply makes use of Nature's method to hold the uterus forward. Dr. Henry related the case of a young woman who, from pelvic inflammation, had a retroflexed uterus with adhesions. He advised an operation, but it was refused, until five years afterward the patient returned for operation. The abdomen was opened, the adhesions broken up, tubes and ovaries released, and the cysts in the ovaries punctured; the uterus was then brought forward according to the above plan. The woman made a good recovery. Five weeks later a careful examination showed the uterus to be in excellent position and freely movable. Dr. Henry believes that the Alexander and Goldspohn operations are all right in certain cases, but that his method of operation is rational, practicable and applicable in a large majority of cases. He thinks it well after this operation to have the patient lie on the side and face as much as possible until the parts gain their normal tone.

Dr. A. Ernest Gallant, New York, agreed with Dr. Craig that one operation will not suit every case. Experience teaches that any disease or operation which induces adhesions of pelvic organs produces a painful point. Normally the uterus should be capable of elevation of from four to five inches, and the lateral mobility is from two to three inches. The moment adhesions form, either from inflammation or other cause, the least dragging on that point will cause pain; hence Dr. Gallant avoids any operation which will cause restrictive artificial adhesions. For this reason he has avoided shortening the uterosacral ligaments. In his experience as high as 50 per cent. of patients suffer from this cause. In a study of 2,000 gynecologic cases trying to lift the uterus caused pain in 50 per cent. In some cases, of course, this was associated with pus tubes and other inflammations. If the uterus is placed in such a position that it can freely move up and down with every breath, then pain is avoided. In the Alexander operation the uterus is thrown forward and the ligaments shortened to such a point that the uterus by dragging thereon will produce pain. Dr. Gallant has made use of the Alexander operation but once. The number of patients he has seen with inguinal pain after that operation has led him to avoid it. The suspension operations of Ferguson and others are more favorable because while they fix the round ligaments at their middle the elasticity of those overstretched ligaments is such that it will not interfere with the rise and fall of the uterus. Dr. Gallant has seen several cases associated with the Alexander or with a ventral suspension in which there has been painful dragging on the scars. The operation he has used for the past five years is one which he first saw performed by Dr. Jarman. It consists of putting a needle threaded with catgut through the broad ligament, around the middle of the round ligament and stitching it to the peritoneal surface on either side of the median incision. There is no scarification, simply the sutures, two on each side, about half an inch apart. It is a very simple operation and it has been a successful one. In Dr. Gallant's cases the trouble has not recurred so far; one woman has been pregnant twice, and the uterus is still in good position. In thus suturing all that is done is to tip the uterus forward just far enough that intra-abdominal pressure will be exerted on the upper posterior portion of the fundus; and the force will be maintained in the right direction, driving the fundus toward the symphysis.

Dr. E. G. Frisbee, San Francisco, performs an operation which consists of detaching the round ligament at its junction with the uterus. He passes a pair of forceps through the broad ligament beneath the ovarian ligament and tube, seizes the detached round ligament, brings it around back of the uterus, and stitches the end of the one round ligament to the other, first making a slight furrow in the posterior wall of the uterus. He covers all the raw surfaces with peritoneum so that adhesions can not form. This tilts the uterus forward. He has used this method with success for four or five years. Only one patient has been pregnant so far as he knows. The operation can be performed eaily.

Dr. E. F. Tucker, Portland, said that many drugs are recommended in vomiting of pregnancy because many of them are useless, and that in retroversion of the uterus many operations are recommended by different operators, but none of them is perfect. If physicians could make use of Nature's own method to restore the uterus to its position it would be a good thing. There are no ligaments to pull the uterus forward; the forward position of the uterus depends on the erect position of the woman. Animals walking on all fours do not have retroverted uteri. In the child the uterus normally is much higher in the pelvis and has a backward position, which remains, to a large extent, throughout infancy. It does not begin to antevert until the infant begins to walk. The backs of infants are flat, but when they begin to walk the pelvis is tilted forward, the lumbar curve is produced, and the intra-abdominal pressure tilts the uterus forward. Dr. Emmett used to say that the uterus was swung from above, and so it is. There may be a shortening of the broad ligaments so that the uterus will not come down completely. There are congenital cases of retroversion of the uterus. There are hundreds of women with retroverted uteri who do not suffer from this condition. It is not really a disease in itself, but it is the result often of widely divergent causes, and the condition can not be cured unless the cause is removed. By looking into the pelvis when the uterus lies forward it will be seen that the round ligaments run backward, outward and then forward through the inguinal canal. If the round ligaments of a normally located uterus are pulled on the organ will be drawn backward and upward. Dr. Tucker does not think that any of these operations are very good. He does the suspension operation, although it is only substituting one pathologic condition for another.

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ON PAPERS OF DRS. GOLDSPOHN AND CRAIG.

Dr. C. O. Thienhaus, Milwaukee, agreed with Dr. Craig that for retroflexion of the uterus there are many methods of operation which give satisfactory results, and that the surgeon who has perfected himself in one method and knows not only how to do it, but the indications for it as well, will have excellent results, while others will fail. In the majority of failures it is not the method which is at fault, but the inexperienced operator. Five years ago Dr. Thienhaus advocated the vaginal route and the vaginal fixation either after Mackenrodt's or Dührssen's method for retroflexion of the uterus, and he has had no reason to change his views. Women will consent more readily to operation by the vaginal route, and if this can be performed with the same success and the same immediate and future safety for the patient as by the abdominal route there is no reason why it should not be chosen. By doing a vaginal fixation it is possible to avoid all the objections which are raised to abdominal fixation and suspension, namely, abnormal position of the uterus and the formation of bands, which may cause ileus. Experience, he said, has also shown that when Mackenrodt's or Dührssen's method is used there is absolutely no danger of disturbance during future pregnancies. Dr. Thienhaus has seen eight pregnancies following vaginal fixations which he had performed after Mackenrodt's method (in one case two pregnancies), and in not one of them was there any disturbance attributable to the fixation, during pregnancy or confinement. He does not use the vaginal route for every case of retroflexion. When the retroflexed uterus is imbedded in dense adhesions or when there is sufficient reason to believe that together with a retroflexion of the uterus a disease of the appendix is present he always uses the abdominal route. In 1902 Dr. Goldspohn challenged Dr. Thienhaus to show him literature that would state that Dührssen had so few recurrences. Dr. Thienhaus showed that literature.

Dr. W. O. Henry, Omaha, said that he extends the vesicouterine ligaments upward on the anterior surface of the uterus without dissecting the bladder free from the uterus. The abdomen is opened, all adhesions are broken up, and whatever plastic work is required is done on the appendages, then the peritoneum is carefully scarified in the cul-de-sac between the uterus and the bladder, and the scarification is extended up on the uterine wall in line with the vesicouterine ligaments as far as may be necessary, depending on the size of the body of the uterus, then the bladder is sewed to the uterus for the distance of about one-quarter of an inch with a simple catgut ligature, the vesicouterine ligaments are picked up and sewed to the scarified surface with a like catgut ligature. This simply makes use of Nature's method to hold the uterus forward. Dr. Henry related the case of a young woman who, from pelvic inflammation, had a retroflexed uterus with adhesions. He advised an operation, but it was refused, until five years afterward the patient returned for operation. The abdomen was opened, the adhesions broken up, tubes and ovaries released, and the cysts in the ovaries punctured; the uterus was then brought forward according to the above plan. The woman made a good recovery. Five weeks later a careful examination showed the uterus to be in excellent position and freely movable. Dr. Henry believes that the Alexander and Goldspohn operations are all right in certain cases, but that his method of operation is rational, practicable and applicable in a large majority of cases. He thinks it well after this operation to have the patient lie on the side and face as much as possible until the parts gain their normal tone.

Dr. A. Ernest Gallant, New York, agreed with Dr. Craig that one operation will not suit every case. Experience teaches that any disease or operation which induces adhesions of pelvic organs produces a painful point. Normally the uterus should be capable of elevation of from four to five inches, and the lateral mobility is from two to three inches. The moment adhesions form, either from inflammation or other cause, the least dragging on that point will cause pain; hence Dr. Gallant avoids any operation which will cause restrictive artificial adhesions. For this reason he has avoided shortening the uterosacral ligaments. In his experience as high as 50 per cent. of patients suffer from this cause. In a study of 2,000 gynecologic cases trying to lift the uterus caused pain in 50 per cent. In some cases, of course, this was associated with pus tubes and other inflammations. If the uterus is placed in such a position that it can freely move up and down with every breath, then pain is avoided. In the Alexander operation the uterus is thrown forward and the ligaments shortened to such a point that the uterus by dragging thereon will produce pain. Dr. Gallant has made use of the Alexander operation but once. The number of patients he has seen with inguinal pain after that operation has led him to avoid it. The suspension operations of Ferguson and others are more favorable because while they fix the round ligaments at their middle the elasticity of those overstretched ligaments is such that it will not interfere with the rise and fall of the uterus. Dr. Gallant has seen several cases associated with the Alexander or with a ventral suspension in which there has been painful dragging on the scars. The operation he has used for the past five years is one which he first saw performed by Dr. Jarman. It consists of putting a needle threaded with catgut through the broad ligament, around the middle of the round ligament and stitching it to the peritoneal surface on either side of the median incision. There is no scarification, simply the sutures, two on each side, about half an inch apart. It is a very simple operation and it has been a successful one. In Dr. Gallant's cases the trouble has not recurred so far; one woman has been pregnant twice, and the uterus is still in good position. In thus suturing all that is done is to tip the uterus forward just far enough that intra-abdominal pressure will be exerted on the upper posterior portion of the fundus; and the force will be maintained in the right direction, driving the fundus toward the symphysis.

Dr. E. G. Frisbee, San Francisco, performs an operation which consists of detaching the round ligament at its junction with the uterus. He passes a pair of forceps through the broad ligament beneath the ovarian ligament and tube, seizes the detached round ligament, brings it around back of the uterus, and stitches the end of the one round ligament to the other, first making a slight furrow in the posterior wall of the uterus. He covers all the raw surfaces with peritoneum so that adhesions can not form. This tilts the uterus forward. He has used this method with success for four or five years. Only one patient has been pregnant so far as he knows. The operation can be performed eaily.

Dr. E. F. Tucker, Portland, said that many drugs are recommended in vomiting of pregnancy because many of them are useless, and that in retroversion of the uterus many operations are recommended by different operators, but none of them is perfect. If physicians could make use of Nature's own method to restore the uterus to its position it would be a good thing. There are no ligaments to pull the uterus forward; the forward position of the uterus depends on the erect position of the woman. Animals walking on all fours do not have retroverted uteri. In the child the uterus normally is much higher in the pelvis and has a backward position, which remains, to a large extent, throughout infancy. It does not begin to antevert until the infant begins to walk. The backs of infants are flat, but when they begin to walk the pelvis is tilted forward, the lumbar curve is produced, and the intra-abdominal pressure tilts the uterus forward. Dr. Emmett used to say that the uterus was swung from above, and so it is. There may be a shortening of the broad ligaments so that the uterus will not come down completely. There are congenital cases of retroversion of the uterus. There are hundreds of women with retroverted uteri who do not suffer from this condition. It is not really a disease in itself, but it is the result often of widely divergent causes, and the condition can not be cured unless the cause is removed. By looking into the pelvis when the uterus lies forward it will be seen that the round ligaments run backward, outward and then forward through the inguinal canal. If the round ligaments of a normally located uterus are pulled on the organ will be drawn backward and upward. Dr. Tucker does not think that any of these operations are very good. He does the suspension operation, although it is only substituting one pathologic condition for another.

Dr. H. O. Marcy, Boston, agreed with Dr. Tucker that physicians should study pelvic conditions more carefully. Dr. Marcy gave up the Alexander operation long ago, because he was having failures and not successes. He never operates for the replacing of a retroverted uterus without opening the abdomen. The intrafolding of the round ligament may be all one requires, and if they are folded forward the broad ligaments are shortened, thus aiding materially in holding the uterus forward. In quite a number of cases Dr. Marcy has done anterior ventrosuspension, but there is no one method that accomplishes all that is desired.

Dr. A. Goldspohn said that it is self-evident that any one of these operations can not suit all cases. He agreed with Dr. Craig that the procedures which he and some of the other speakers have mentioned are supplemental to each other. Vaginal fixation and ventral suspension are so far removed from normal anatomy and physiology, and so far behind other operations in their clinical results, that they stand no comparison at all. The men who have done ventral suspension have been challenged to go honestly after their patients who have borne children, to examine them and to see whether or not the majority of them have not a return of the retroversion. Recently one man did attempt to do this and reported on 445 cases out of about 900 in the Johns Hopkins Hospital, and the results are exceedingly poor. In women who can conceive, not those who can not, the bulk of operators in this country and abroad have practically discarded vaginal fixation and ventrofixation. Dührssen, Mackenrodt and their students, however, still plead desperately for these operations, but that their clinical results are not satisfactory to themselves is evident from their frequent changes in technic. That any man can show ten consecutive cases of vaginal fixation without trouble in confinement and without a recurrence of a retroversion afterward Dr. Goldspohn doubts very much. In a court of law it would not do to say that the uterus in any given case remains in good position, because the patient says that she feels well, and that, therefore, it is not necessary to examine her. Such evidence without an examination is equally inadmissible before the tribunal of science. Dr. Goldspohn said that out of 200 cases, most of them complicated, in which his bi-inguinal operation had been performed, he has now a collection of 155 patients who have been carefully examined after an average interval of twenty months after operation. In all this number there is a return of retroversion in only one case. There is not one hernia, while at least fifteen concomitant herniæ were incidentally cured. Twenty-one patients had given birth to one or more children each, and the only abnormal labor reported was a breech presentation in one case. In none of them was there a return of displacement. On the contrary, the anteversion in these cases after childbirth was generally more pronounced than in the others. This feature has been mentioned by several German operators. In the total of over 288 patients, no case of marked peritonitis, etc., occurred to impeach the intraperitoneal manipulations without sight and without drainage. One death occurred from cerebral embolism. This rare occurrence could take place after the same intrapelvic work performed by any other form of ventral section. One other death occurred from hemorrhage due to slipping of a ligature from the stump of a tube and ovary that were removed on one side. In this case the smallness of the wound may have had something to do with the accident. The resulting mortality of a little less than 1 per cent. is less than would probably have been the case if a regular median section with its consequent greater exposure of viscera had been made. Dr. Goldspohn thinks that the fact that he has only one case of recurrence of displacement in 155 cases, and results otherwise also never before equaled by any one in a similar grade of cases is because he has carefully discriminated and selected the cases suitable for bi-inguinal shortening of the round ligaments, and has performed other operations as well. He always excluded the cases of prolapsed uterus from the bi-inguinal domain, which can not cope with the excessive elongation of the sacrouterine ligaments in those cases. In women who can no longer conceive, the retroversion, if present, should also be corrected, but it is usually more of an auxiliary surgical act, associated with some other more pronounced indication, and for this purpose any one of the otherwise rational and effective fixation operations may be eligible.

Dr. D. H. Craig said that the silence of the ardent advocates of ventral suspension and fixation gratified him, while at the same time mortifying him, because either his exposition of their side of the question is not worthy of consideration, or his opinion has been held universally, and shows that his paper was superfluous. He believes that in a few decades ventral suspension and fixation will be considered, except in such cases as he outlined in which they are specially indicated, as we now look on venesection, except in specially indicated cases. The question of the consent of the patient ought not to enter into any consideration of the choice of operation. Getting the consent of the patient depends more on the man trying to get it than on the merits of the operation proposed, and gynecologists ought not to allow themselves to be induced to select a secondary operation unless it is indicated. The question as to the rationality of an operation is not an entity. There are good and bad operations. A bad operation can be so well used as to make it a good operation, and a good operation can be performed so badly as to make it absolutely useless. The personal equation of the operator and selection of cases comes in everywhere. If the operation is not a good one, the gynecologist should study the anatomy and mechanics of the pelvis until he can make a good one. In regard to the question of the holding up of the uterus by a ligament from above, Dr. Craig said that he does not remember when camping out of ever having seen any ropes that held his tent in the air, and the ligaments of the uterus perform the same functions as do the guy ropes for a tent. When normal ligaments can be used to restore a normal condition, the surgeon should not try to improve on Nature, but should follow her as closely as he can. One can improve on perverted Nature, but not on a normal condition. Any operation for retroversion does not produce an immunity in that woman to a recurrence of the retroversion, even if the proper operation has been done. There is as much to be done in teaching the woman how to avoid subsequent retroversion as in correcting it operatively. Dr. Craig does not want to go on record as having the opinion that anything will do for a woman who can not have children. That woman is entitled to as much consideration as the woman who can bear children, and she must be relieved of her pain and discomfort and made as happy and comfortable as any other woman.

CULTURES FROM THE BLOOD IN TYPHOID.

REPORT ON EXAMINATION OF EIGHTY-EIGHT CASES.*

RALPH DUFFY, M.D.
PITTSBURG.

While scattered reports of the occurrence of typhoid bacilli in the blood of typhoid patients extend over a period of twenty years, it is only within the last five or six years that published accounts of larger series of cases occur, and it remains for the present workers to demonstrate to the practitioner what I believe to be the case, that blood cultures in typhoid fever afford a surer and earlier means of diagnosis than the Widal reaction and are perfectly feasible in family practice.

The earliest publication on blood cultures in typhoid I have been able to find is that of Fraenkel[1] in 1885. This observer in seven cases demonstrated the bacilli in the blood in one case. Twelve years later Künau[2] reported that he had demonstrated the bacilli in eleven out of forty-one cases. In this country Cole,[3] of Johns Hopkins, in 1901, in fifteen cases isolated the bacilli in eleven cases. His earliest case was on the sixth day.

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* Read before the Allegheny County Medical Society, 1905.

[1] Fraenkel: Centralblatt f. klin. Medicin, 1885.

[2] Kuenau: Zeits. f. Hygiene, 1897.

[3] Cole: Johns Hopkins Hosp. Bull., July, 1901.

In the same year Auerbach,[4] in Germany, in ten cases, reported positive results in seven cases. His results are remarkable in that he withdrew only from ten to thirty drops of blood for the test, whereas most observers withdraw at least 5 c.c. Hewlett,[5] also writing in 1901, examined twenty-four cases. He does not give the proportions, but thinks that the bacilli are present in the blood in the majority of cases.

Kerr and Harris,[6] in 1902, reported fifty-six cases in which cultures were made. Thirty-one cases were positive and twenty-five negative. They found that in the first week of the disease 87.5 per cent. of the cases were positive; in the second, 70 per cent.; in the third, 50 per cent. They give the general average as 70 per cent.

Courmont,[7] of Lyons, in 1903, in thirty-seven cases, found the bacilli constantly from the first day to the third week. He used fluid cultures and from 2 to 4 c.c. of blood. He found staphylococci in five cases and the colon bacillus in one case. Courmont's belief is that the bacilli are constantly in the blood from the fifth to the twenty-seventh day, but not after the fourth week. Rosenberger,[8] in 1903, in his excellent article on blood cultures, states that in 535 cases collected by him from the literature results were positive in 80 per cent.

The earliest observers used solid media for their cultures. They soon found, however, that it was much better to use fluid media and in such quantity (from ten to fifty times the amount of the blood withdrawn) as to counteract the antitoxic powers of the blood serum.

My own cases in which the blood cultures were taken number eighty-eight. The material was obtained from the medical wards of the Western Pennsylvania Hospital. The patients in these wards are, in the great majority of cases, Italian and Slavish laborers, not speaking English. The fact, together with the ignorance of this class of patients as a whole, makes history-taking extremely unreliable. For this reason I have divided the cases according to temperature at time of test. The rule is for patients to be brought in with a temperature of 103 F. or over and a history of about a week's sickness. My Class A, at 103 F., represents approximately the second week of the disease. I think in no case was a culture made while the temperature was rising before the end of the first week.

The Classes B and C, at 102 and 101 F., correspond to the third week, Class D, 100 F., being somewhere in the fourth week.

The Widal test was positive in all cases but two. In eighteen cases of the series the blood cultures showed bacilli in the blood before the Widal test was positive. In the cases in which the typhoid bacillus was isolated no control cultures were made to exclude the possibility of air contamination.

The eighty-eight cases in which observations were made were routine cases and were not especially typical or severe cases selected for experiment. The mortality was not especially high. Eleven cases were fatal.

The technic I have adopted is to obtain blood from the arm veins in a sterile glass pipette of 10 c.c. capacity by suction with a rubber bulb. A tourniquet is used and the spot to be punctured is touched with pure carbolic acid for a few seconds and then rubbed off with alcohol. The needle I use is a large-sized hypodermic needle, which is thrust through the carbolized area of the skin into the vein; 10 c.c. were withdrawn in almost all cases. In one or two cases lesser amounts were withdrawn; 4 c.c. is the smallest amount in the series. The slight operation takes only about three or four minutes, and the pain experienced is not greater than in the use of the hypodermic needle.

The blood is put into bouillon flasks of 500 c.c. capacity which are kept in the incubator for forty-eight hours before being opened. The bacillus at this dilution (1:50) generally grows in thirty-six hours. In a few cases, however, positive results were obtained only at the end of four days. Growth and agglutination went hand in hand in a number of cultures.

In four cases of the series the typhoid bacilli were non-motile on all cultures. In about one-third of the cases the growth on potato was vigorous and visible.

Class A.—Twenty-one cases; temperature 103 or over; second week of disease.

Sterile	0
Typhoid bacillus present alone	21
Typhoid bacillus present with other organisms	0
Other organisms alone present	0

Class B.—Thirty cases; temperature 102, third week of disease.

Sterile	0
Typhoid bacillus, present alone	25
Typhoid bacillus present with other organisms	5
Other organisms alone present	0

Class C.—Thirteen cases, temperature 101, third week of disease.

Sterile	3
Typhoid bacillus present alone	9
Typhoid bacillus present with other organisms	0
Other organisms alone present	1

Class D.—Ten cases; temperature 100, fourth week of disease.

Sterile	3
Typhoid bacillus present alone	1
Typhoid bacillus present with other organisms	0
Other organisms alone present	6

Class E.—Seven cases; temperature 99, fourth week and after.

Sterile	4
Typhoid bacillus present alone	1
Typhoid bacillus present with other organisms	0
Other organisms alone present	2

Class F.—Seven cases; temperature 98.4 fourth week and after.

Sterile	6
Typhoid bacillus present alone	0
Typhoid bacillus present with other organisms	0
Other organisms alone present	1

From the above table it will be seen that in fifty-six cases in which the temperature was above 102 the bacilli were present in the blood in every case, and that in twenty-three cases in which the temperature was 100 or 101 F. the bacilli were cultivated from the blood in ten cases, or 43 per cent.

AUXILIARY ORGANISMS.

The most interesting result of the examination was the demonstration of auxiliary organisms in the blood stream.

In Class A, in twenty cases, no other organisms than the typhoid bacillus was found.

In Class B, in thirty cases, other organisms were found accompanying the typhoid bacillus in five cases. These organisms were all motile bacilli, decolorizing by Gram's method of staining, and identical in their growth in milk, where strong alkalinity was produced, and in their vigorous, yellow, moist growth on potato. They differed somewhat in growth on agar. None could be agglutinated with serum, 1/20. None produced glass in glucose media. In general they resembled *Bacillus alcaligenes* closely.

In Class C, in thirteen cases, but one organism (*Streptococcus pyogenes*) other than typhoid was encountered.

In Class D, in ten cases, other organisms were present in six cases. Five of these were bacilli corresponding closely to *Bacillus alcaligenes*, though two were non-motile. Cocci (non-pyogenic) were found in one case; *Staphylococcus albus* in one case.

In Class E, in seven cases, two showed other organisms, in one case a motile bacilli and in the other *Staphylococcus albus*.

In Class F, with normal temperature, in seven cases, a white coccus was found in one case.

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[4] Auerbach: Deutsche med. Wochft., Dec. 6, 1900.

[5] Hewlett: Med. Rec., Nov. 30, 1901.

[6] Kerr and Harris: Chicago Med. Recorder, Oct. 15, 1902.

[7] Courmont: Bull. Soc. Medicale des Hôpiteaux. de Paris, Jan. 2, 1903; Jour. de Physiol. et Path. gén., Jan. 15, 1903.

[8] Rosenberger: Proc. of Path. Society of Phila., May, 1903.

SUMMARY.

1. *Bacillus typhosus* is present in the blood in all cases of typhoid fever in the second and third weeks, when the temperature is 102 or over.
2. Bacilli of the "enteric group" of bacteria (*Bacillus alcaligenes*) are present in a considerable percentage of the cases after the second week, at first accompanying *Bacillus typhosus,* then supplanting it.
3. Later in the disease cocci may be in the blood.
4. *Bacillus coli communis* is never present in the blood of typhoid patients.

METHYL ALCOHOL AMBLYOPIA, WITH SPECIAL REFERENCE TO OPTIC NERVE.

REPORT OF CASE.*

C. S. G. NAGEL, M.D.
SAN FRANCISCO.

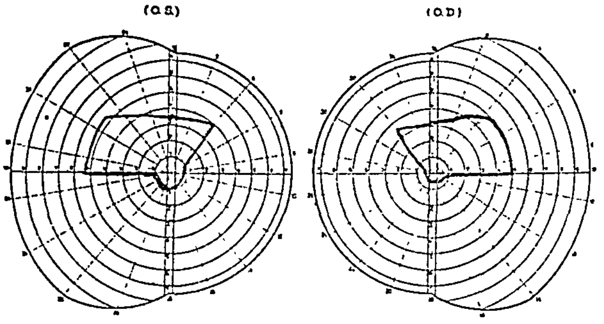
The very meritorious report of Drs. Buller and Wood[1] has absolutely established the specifically deleterious effect of wood alcohol on the optic nerve. Until anatomic findings may give us a better insight into the pathology, cases offering special clinical features seem to me to be worth recording.

Previous History.—It has been my good fortune to come across the patient in Case 80 of the report referred to and to have had this individual under observation for about a year. It is only necessary to recall here that early in October, 1901, this patient became absolutely blind for a number of hours through acute wood alcohol intoxication from imbibing; then a very considerable improvement had been present for some hours, after which blindness had set in again lasting for several days. After improving for a few months, vision had been, on a whole, getting worse ever since. It is noteworthy to quote from Dr. J .F. Van Kirk's report as follows: "This case was characterized by frequent transient changes. The vision would be markedly improved for a few hours and then it would suddenly fail. Often the morning vision would be good, while exercise seemed to increase the amblyopia." The patient further stated to me that he always used to see much worse temporarily whenever discouraged about failure o secure food. He had also had occasionally "fullness of ead" and attacks of pain over the head, which felt "tight" rom forehead to top, but not farther back.

Examination.—When I first had occasion to examine him (March, 1904) vision was R. 5/15; L. fingers in 0.65 m. Anterior chambers were normal o. u. Left pupil was dilated. T. normal o. u. In each pupil there was slow minimum reaction to light. R. F. V. extremely contracted, from 50 degrees outward over ca. 50 degrees outward and upward, 30 degrees upward and 35 degrees inward—up to 5 degrees for the remaining 5/8 of the field. In other words, over ½ of total F. V. is missing, below and inward, and upward and outward F. V. is contracted. There are small fields for blue, red and green and no central scotoma. L. F. V. is analogous, though uniformly a very little wider, but color perception for blue only. The striking point regarding the fields is the similarity as to the position in each of the parts intact and missing.

Corpus vitreum normal o. u. Ophthalmoscopically, the disc in both eyes is white (atrophic), with well-marked lamina cribrosa, outlines sharp, arteries a very little contracted. There is a halo around each papilla. Each disc shows glaucomatous cupping upward. To do away with one other point, I will say that for some time, during the beginning of my observation, there were apparent, at times, two or three discolored small roundish spots in the macular region of right eye which had created in the mind of another casual observer the impression of impending anatomic changes. During my long observation I have become convinced that such is not the case, and that the changes are confined in each eye to the disc, to its immediate neighborhood and to the vessels.[2]

Treatment and Result.—For reasons which will become clear from the epicrisis, I promptly performed a broad peripheral iridectomy in both eyes. For a short time only (ca. 2 weeks) after operation both pupils became a little smaller. The ophthalmometer showed R. + 1.0 axis 60 temp., L. + 3.0 ax. 75 nas. In the right eye vision remained about the same, in the left eye there was a decided improvement. Fingers were now counted (one week after operation) in 1.0 m., and 3 weeks p. o. in 1.25 m. These results of repeated examinations became the more convincing (as generally in cases of extreme amblyopia) because the patient, in trustworthy statements, had repeatedly spontaneously maintained improvement of vision from his observations in general. As a result of repeated perimetric examinations there also seemed to be a slight improvement in both F. F. V. peripherally. Such was the status to about the middle of April, 1904. Soon afterward, however, and gradually more and more pronouncedly, a decided deterioration set in again. In R. F. V. there soon remained but a small field for blue (only), and besides a perception of green could be found occasionally paracentrally. The left eye has kept a still smaller field for blue up to the end of my observation. F. F. V. could only be taken with finger fixation from about August, 1904. In the beginning of November, 1904, the patient was taken to the City and County Hospital, where a careful general examination by Dr. Schmoll revealed nothing abnormal except induration on one pulmonary apex. The patellary reflexes were rather exaggerated, no Romberg. Urine was normal. While, unfortunately, I find nothing before in my notebook regarding the point, the corneæ are now of subnormal sensibility to touch. Only fingers are counted in each eye in about 1.0 m. Left pupil was dilated. T. normal o. u.



On November 16, sympathectomy of the left superior ganglion was performed by Dr. Stillman, under chloroform-anesthesia. In taking up the ganglion and at the moment of cutting, a slight pupillary play was noted, there was no marked dilatation. Both pupils were somewhat contracted while the patient was fully under the influence of the anesthetic. Postoperative tension was a little subnormal. Ten hours after operation both conjunctivæ bulbi were congested. L. T. is still subnormal (decidedly less than R. T.). Patient complained of some trouble in swallowing.

L. Pu. < R. Pu. (before operation opposite!).

Nov. 17, 1904; L. conjunctiva bulbi injected (not R.). L. Pu. < R. Pu. L. T. < R. T.

Nov. 19, 1904: L. T. < R. T. though a little higher than so far since operation. L. Pu. < R. Pu.

Nov. 24, 1904: L. T. < R. T. L. Pu. < R. Pu.

Nov. 28, 1904: Stat. id. left eye better sensibility than R.

Dec. 9, 1904: L. Pu. < R. Pu. L. T. Pu. < R. Pu. both physiologic. L. F. V. somewhat wider.

Dec. 12, 1904: Sympathectomy of superior ganglion o. d. (Dr. Stillman); chloroform narcosis. There was no change in pupil during operation. Pupil contracts with excision of ganglion. Some hours afterward R. T. < L. T. R. Pu. < L. Pu.

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*Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Buller and Wood: "Poisoning by Wood Alcohol," The Journal A. M. A., Oct. 1, 8, 15, 22, 29, 1904.

[2] Koller in Med. Record, July 1, 1905, in a report on wood alcohol poisoning states the same observation, comparing this evanescent feature to *chorioiditis guttata.*

Jan. 7, 1905: T. normal o. u., R. a little < L. R. Pu. a little < L. Pu. Vision to patient seems slightly better," measurably stat. id. Ophthalmoscopically, stat. id. R. F. V. somewhat better.

Whether this improvement (real or apparent) has kept up, I am unable to say, having been on a trip abroad since.

Before entering on a discussion of the special points of interest in the foregoing history, I should like to express briefly my belief that wood alcohol amblyopia sets in at first through a defective local blood supply consequent on disturbances in the general circulation, as they find their clinical expression in weak pulse, slow respiration, sweating, coma, etc. This, at least, seems to me the inference to be drawn from those cases in which a very prompt great improvement of vision had taken place, after the first, often very sudden attack of blindnes, to be followed again by fresh failure of sight gradually leading to optic atrophy. As we know from the experiments of Pohl,[3] who found in the urine the maximum of formic acid, as the product of oxydation of wood alcohol, only after from three to four days, a cumulative effect of the poison takes place the reason, I take it, for the second (eventual) attack of grave amblyopia. The first attack of blindness would then be due anatomically to what Alfred Graefe[4] has described as *Ischæmia retinæ*. It would be of great interest, of course, if ophthalmoscopically contraction of blood vessels could be found during the attack.

Since the prognosis is so very bad, I should advise prompt performance of iridectomy or at least keratomy, in order to lower the intraocular pressure, in acordance with the good results obtained by thus increasing the intraocular circulation in Graefe's and Knapp's[5] cases of ischemia of the retina.

Neither do we know at present how to discriminate between cases in which the first attack of blindness might be overcome spontaneously, and those in which it will not, nor can anyone doubt the lowering effect on the optic nerve of the lessened blood supply, thus predisposing it for the specific effects of methyl alcohol.

If there is any foundation for the theoretic reasoning, I now beg to submit, in conclusion, that a course of procedure, as advocated, might also have a preventive effect in that regard. It is, of course, scarcely necessary to point out expressly that I did not perform iridectomy with any lingering thought for therapeutic effects as considerd so far. As those I have been able to interest sufficiently will have noticed, I had become convinced that in this case a simple glaucoma had developed. My reasons therefor are as follows:

1. The great similarity in both F V, which would be very unusual in optic atrophy pure and simple, and the missing parts being the inner ones.
2. Glaucomatous cupping of discs.
3. Insensibility of corneæ.
4. Indication of halos around papillæ.
5. History of pain (cf. above).

Neither would the absence of (observed) increase of tension necessarily be against the diagnosis of glaucoma simplex, nor am I, on the other hand, indeed, unmindful that the positive symptoms enumerated may not be absolutely convincing to every one, though they have tended to become so to me in this case from the extended observation. I should like to add that the late appearance of central color scotoma in R. E. seems to be rather in favor of the idea of a glaucomatous process complicating the pathologic changes in the optic nerves. Regarding the glaucomatous cupping, I have to add that Leber[6] states that exceptionally the atrophic excavation may assume a form that can not be differentiated from the pressure excavation in glaucoma simplex. Also Stelwag[7] makes the statement that in atrophy of the optic nerve the lamina cribrosa sometimes loses in resistance to such a degree as to recede (*nach hinten weichen*) and thus a deep cupping comes about, in exceptional cases an excavation even with steeper margins, such as develops constantly in glaumoca. Of greatest interest is the history given by Schmidt-Rimpler,[8] which supplies the anatomic proof for such views.

Without any other convincingly glaucomatous symptoms there was found in his case a typical pressure excavation in both eyes. Von Graefe's diagnosis was glaucoma simplex.

Before iridectomy, which had been decided on, could be done, the patient died of pneumonia. Postmortem examination showed both optic nerves throughout their whole course attenuated and flattened. Microscopically there was pronounced atrophy of the nervous fibers, which could be traced still beyond the chiasma into the tractus. The left *papilla optica* (hardened in Mueller's solution) was found to be pushed backward together with the lamina cribrosa. "Here, then, was an excavation showing absolutely the picture of glaucoma and yet being solely the result of the atrophy of the nerve."

Irrespective of the true place of T. P.'s case in reference to the excavation, it is of some value, I think, insofar as it is apt to make us ask whether so-called glaucoma simplex might not come about sometimes under normal intraocular tension if the optic nerve or lamina cribrosa has lessened resistancy. This question has repeatedly suggested itself to my mind when dealing with cases of glaucoma simplex in which there were absolutely no typically glaucomatous symptoms except a "pressure" excavation. In conversing about the point with my former chief, the late Professor Pflüger, whose mind was particularly trained to approach ophthalmologic questions from the standpoint of the physicist, he readily conceded its feasibility. Although Schmidt-Rimpler, as well as Leber,[9] refer in passing to the importance of the relative resisting power of the lamina cribrosa in the formation of a glaucomatous cupping, I know of only one reference in literature having a direct bearing on the point raised.

"Impossible, however, it is not that there are cases where, under the influence of the normal pressure, together with primary inflammation or weakness of opticus, the excavation takes place."[10]

The anatomic discoverer of the glaucomatous cupping of the disc, Heinrich Mueller, discusses in full in his classical treatise[11] the several possible modes of origin for the various forms of excavation of the disc, without, however, referring specifically to the formation of a glaucomatous cupping through normal pressure. He states that normal tension with lessened resistance may "modify the place of entrance." Mueller then refers to Donders as having verbally laid great stress on this point. Von Graefe[12] says "if we imagine the substance of the optic nerve loosened (*gelockert*) through some internal process the papilla will give way to the normal pressure in an anomalous way." Later it was Schweigger who in 1891 (cf. Horstmann) insisted that cupping of the disc to the margin may exist without the least demonstrable increase of tension, and that "such a condition might arise from any atrophic disease of the optic nerve when there was previously a physiologic cup." Neither Schweigger nor Horstmann[13] refer to the normal intraocular pressure as the direct cause for such "glaucomatous" cupping in apparently non-glaucomatous eyes.

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[3] "Ueber die Oxydation von Methyl u. Aethylalkohol im Tierkoerper," Arch. f. exper. Pathol. etc., vol. xxxi, p. 281.

[4] Arch. f. Ophth. viii, 1, p. 142.

[5] "Erblinding durch Netzhaut-Ischaemie, etc." Arch. f. Augen u. Ohrenhlkd., v. p. 203-207.

[6] Graefe-Saemisch Handbuch d. Augenhlkd., 1, ed., vol. viii, pp. 853-4.

[7] Lehrb. d. prakt. Augenhlkd.. 4, Aufl., p. 228.

[8] Arch. f. Oph. xvii, 1, p. 117.

[9] S. Graefe Saemisch, v. 1. ed.

[10] Schonte u. Koster: Ergebnisse d Allgem. Pathol. etc. d. Auges von Lubarsch u. Ostertag, p. 403, 1903.

[11] "Glaucom und Excavation der Sehnerven, in Gesammelte Schriften, etc.," edited by Otto Becker, Leipzig, 1872.

Schnabel's[14] views regarding true glaucomatous cupping as due to disintegration (Zerfall) of the optic fibers with formation of caverns, and "the glaucomatous excavation is one of these caverns"—are beside the point raised and are merely quoted for completeness' sake,[15] so are also Mueller's[11] conclusions that excavation —in general—might sometimes also be brought about by traction from without through shrinking exudate, etc.

Clearly the point is not of merely anatomic interest; if we could discriminate in glaucoma simplex without increase of tension between cases in which the "glaucomatous" cupping is due solely to simple atrophy, i. e., of fibrillæ and finer septa, and those in which it is the result directly of normal pressure on diseased or congenitally less resistant tissue, it would seem that the vexed question concerning the therapeutic effect of operative measures in glaucoma simplex would become clearer.

DISCUSSION.

Dr. E. V. L. Brown, Chicago, said that the pathogenesis of glaucomatous cupping in optic atrophy was much discussed at last year's meeting of the Vienna Ophthalmologic Society. The position was taken that this does occur in a great many cases without any tension whatever, and is due to the atrophy in the nerve head. Just back of it are found extensive areas of atrophic nerve fibers. Schmidt-Rimpler has also reported some observations on this point.

THE PHYSIOLOGIC ACTION OF DIONIN.*

WALTER HAMILTON SNYDER, M.D.
TOLEDO, OHIO.

Dionin is ethyl-morphin hydrochlorate, and was discovered by Grimaux ($C_{10} H_{23} NO_3 HCl + H_2O$). It is a white, odorless, bitter powder, soluble in water, 7 parts; in alcohol, 1.5; in syrup, 20. It is insoluble in ether and chloroform. The aqueous solution is neutral in reaction and keeps a long time. The general physiologic action is similar to that of morphin, but it is claimed that it is less toxic and does not produce nausea, constipation or habit. The respiratory and cardiac centers are unaffected. Applied to the eye, either as a solution or powder, it produces marked sneezing, vasodilation, edema, glandular excitation, burning and lachrymation and supposedly lymphatic extravasation, followed by analgesia, lasting from 2 to 48 hours. Wolffberg[1] of Breslau first used it in ophthalmic practice, but it was Darier's[2] report that brought it prominently before the profession.

The general literature on the drug is enormous, but I have been unable to find any experiments bearing on its actions on tissue and cells. I here cite my own:

Albino rabbit (medium size). Dionin in powder was placed in each eye in larger quantities than would be necessary if the eye was abnormal. The reaction was moderate, giving the usual appearance, only less in degree. The rabbit was killed. The globe and tissue were enucleated and placed in formalin 4 per cent. for 48 hours. Later sections from the cornea, through the ciliary region to the nerve were cut and then put through the usual technic of imbedding, sectioning, staining, etc. Control specimens were made from a normal rabbit's eye. I will here cite the findings:

Slide 1.—Magnification 210 diameters, section through cornea and ciliary region. (Fig. 1.) The lamellar spaces in substantia propria are dilated and edematous. The serous transudate involves the spaces at the junction of the cornea and ciliary region most. Is this not due to the dionin being placed directly over this region?

Slide 2.—Magnification 35 diameters. (Fig. 2.) This is same section under lower power and on close examination it is seen that the effect is greatest on the external side of the cornea and that the muscle is not affected, not even showing edema. Toward the sclera there is slight evidence of hyperemia.

Slide 3.—Magnification 210 diameters. (Fig. 3.) This is a control slide showing normal substantia propria. Compare this slide with No. 1 and see the effect dionin has had in elongating and widening the lymph spaces. In this section the lymph spaces are round, not widened or elongated as in the previous slide.

Slide 4.—Magnification 35 diameters. (Fig. 4.) This is the conjunctiva of a rabbit on whose eye dionin has been applied, suggesting the contention that the tissue changes are found only where there is tension; no edema or round cell infiltration can be found in this slide.

It might be well to introduce here an hypothesis to explain the clinical and microscopic action of dionin and to explain the clinical reports which, on comparison, at times are contradictory. Many slides were examined to arrive at certain conclusions and only the marked features photographed. From these I deduce that the action of dionin is purely local—greatest where the drug has actually rested. Its most marked action is in eyeballs in which the tension is increased, and I believe its entire action can be explained by saying that it has some disassociating action on the intercellular cement substance allowing a transudation of serum from a globe under pressure. That its analgesic action is to be explained by its lessening of tension and thus relieving pain, and by the well-known action of the derivatives of opium. It has been claimed for this drug that it is a lymphagogue, but opium lessens secretions, and the increased flow of apparent lymph, is not lymph, but serum which does not contain cells of any description. Lymph contains colorless blood cells and if the action of dionin was that of a lymphagogue, examination of the tissues would reveal the characteristic components of this fluid. I believe, therefore, that it is only a lymph stimulant secondarily; after the edema the fluid is absorbed as lymph, as it would be in edema from any cause. Careful examination of the slides reveals that locally where the drug is applied there is some change that permits fluid under pressure in the globe to pass through and into the tissue, causing edema and consequent lowering of tension. From these laboratory facts we should expect its action to be most marked in pathologic eyes, and, in these, greatest when the tension is highest. That its reaction subsequently is lessened rapidly, unless the tension is renewed, is a fact familiar to all who have used dionin.

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*Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[12] Arch. f. Ophth., III, 2, p. 547.

[13] "Glaucoma Simplex," Arch. of Ophthalm. 33, No. 5.

[14] Arch. f. Augenheilkd., 1892, vol. xxiv; Wiener klin. Wochenschr., 1901, S. 469.

[15] For a critical review of Schnabel's views see "Ginsberg, Grundriss der pathologischen Histologie" des Auges, Berlin, 1903.

[1] Wochft. f. Ther. u. Hyg. des. Auges. vol. III, No. 16.

[2] Ophth. Klin., No. vii, 1900.

I wish to enter into detail in a few findings not so generally admitted.

Darier[3] and Reber[4] have each reported cases of complete absorption of the lens and capsule during the use of dionin, and in a case of severe contusion of the eye without penetration this has occurred in my own practice.

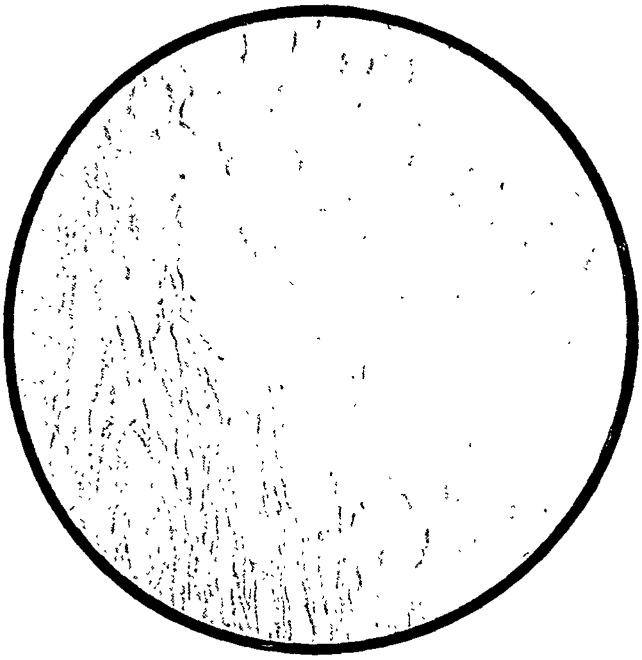

Fig. 1.—Magnified 210 diameters. Cornea and ciliary region showing the lamellar spaces in the substantia propria are dilated and edematous, especially at the corneal junction.

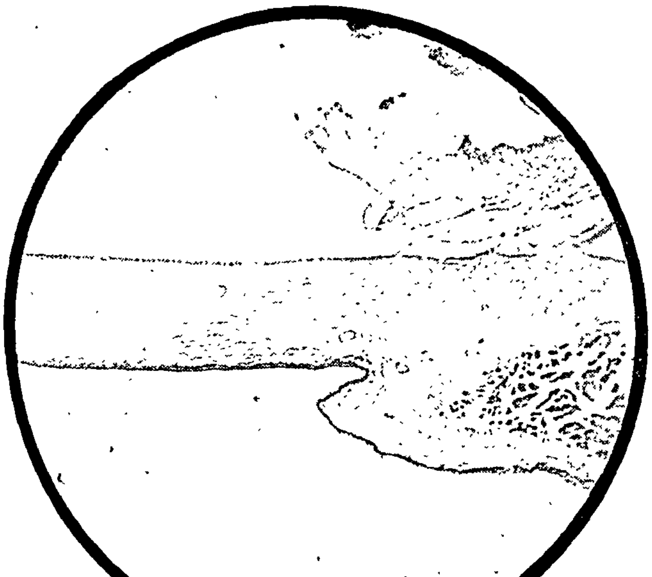

Fig. 2.—Magnified 35 diameters. Same section as in Fig. 1, through lower power. Note that effect on cornea is greatest on the external side. Muscle is not affected. Sclera is slightly hyperemic, showing how purely local is the action.

History.—Sept. 20, 1904, I first saw this patient and found hemorrhage in the anterior chamber, partially opaque lens—tension plus 2. Dionin and atropin were used daily. Each application would lessen the tension and it was used daily as a powder until December 28, when the fundus could be seen.

Condition.—Fluid was vitreous, the iris was dilated and maximum and drawn up in a mass in the inner upper quadrant.

Jan. 29, 1905; this iris had disappeared. Dr. Samuel D Risley has suggested as a possible explanation of the disappearance of the iris in this and similar cases that it inverts or "umbrellas" over the ciliary processes. Tension was normal, and vitreous fluid.

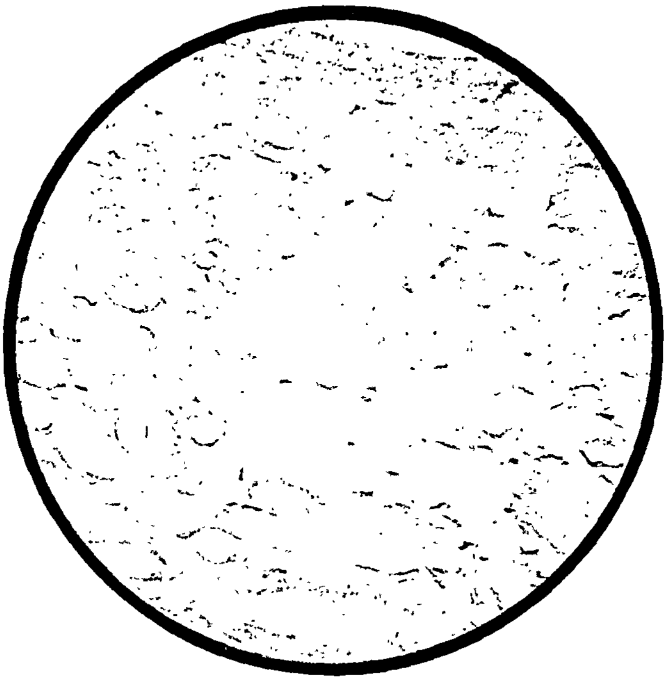

Fig. 3.—Magnified 210 diameters.—Control slides showing normal substantia propria. Compare with Fig. 1.

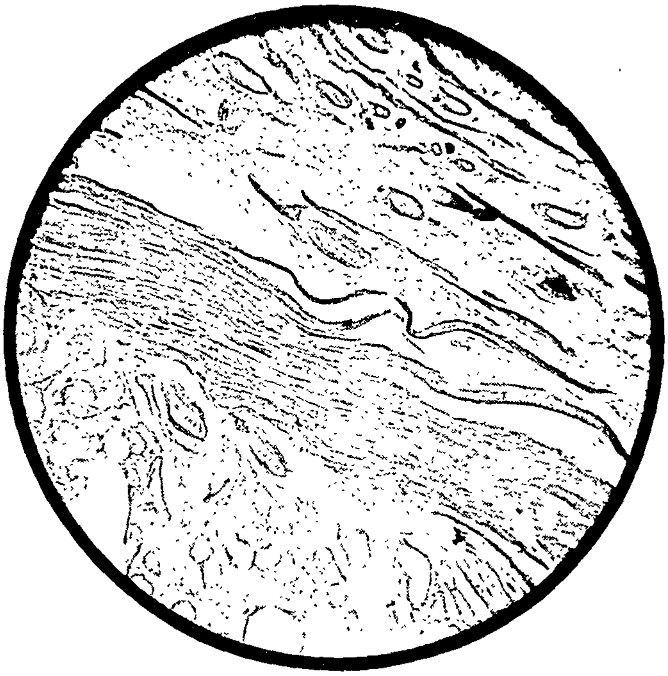

Fig. 4.—Magnified 35 diameters. Conjunctiva in fornix after dionin. No round cell infiltration or evidence of edema.

Later History.—April 2, 1905, a careful examination showed no iris, lens or capsule. With plus 8.00, combined with plus 4.00 cyl. axis 180, vision is 20/40 and a spherical plus 4 added gives Jaeger No. 1 at 17". The reaction to dionin was marked every day, something I have never seen before.

In iritis with adhesions and plus tension the use of dionin lessens the tension and permits absorption of the mydriatic, and prompt relief of pain and dilation of the pupil results. In corneal ulcers, especially the peripheral type, the repair process begins as soon as the ulcer is cleared. I have observed that the more recent the inflammation and the higher the tension the better the results obtained from its use.

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[3] Darier, A.: Clin. ophth., 1899, No. 23; 1900, No. 6. La Clin. Ophthal., Jan. 25, 1904.

[4] Reber: Ther. Gaz., Feb., 1904.

Konigstein agrees with this, as he states: "Dionin is almost completely abortive of parenchymatous keratitis if used in the earliest stages of the disease, but valueless in the late." Curiously enough, Graefe[5] gets "good results in vitreous opacities only when they are of long standing." Bourdeaux[6] and Batalow[7] think it is useful in the later stages of corneal opacity and that they clear up more quickly than without its use. In old cases I have not been so successful, but in recent cases my experience coincides with theirs. Central opacities of the cornea, especially if of long standing and with tension minus or normal are but slightly, if at all benefited in my experience. Von Arlt[8] has treated these patients "as long as 21 months with good results, especially in children." I have not persevered so long. Wolffberg[9] uses this drug in hemorrhagic glaucoma, which is seemingly logical. Bloch[10] states the greatest reaction occurs in pathologic condition. I should qualify this by adding "with increased tension." Sanz Blanco[11] "injects a 5 per cent. solution in intraocular hemorrhages with surprisingly good effects." "In one case the fundus could be seen in 5 days and in 30 days he (the patient) could read."

I have tried it in conjunctival hemorrhage with no reaction to speak of and no beneficial results over the ordinary treatment, evidently lacking the pressure factor. In beginning pannus I have cleared up the cornea and resisted permanent opacity more satisfactorily than with any previous treatment, the lid, of course, being treated for the cause.

In glaucoma, I prefer dionin to eserin, relief from pain being very marked, due, I think, to the mechanical relief from pressure. In old vitreous opacities I have had poor success, possibly because I have not used it long enough. I early abandoned the use of solutions and placed specks of the powder on two or three places on the cornea, especially finding the results better than solutions or applications in one place. This was when I thought the drug a lymph stimulant and is further proof that its action is as suggested in my hypothesis, because the action being purely local the larger number of places acted on the greater the relief from the tension. I wish here to express to W. J. Stone, B.S., M.D., my appreciation of his kindness in assisting me in the preparation of this paper.

DISCUSSION.

Dr. E. V. L. Brown, Chicago, referred to an article recently published on some work done in Breslau in which the author found that dionin had effect only on certain animals; not on all. The animals used were dogs, rabbits and cats, and the cats did not react in any way.

Dr. W. H. Snyder said that in rabbits the effect is very slight. It requires 100 times as much to get a reaction as in the human eye.

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[5] Graefe, A.: Deut. med. Wochft.. xxvi, No. 12.

[6] Bourdeaux, B.: Klin. Ther. Wochft., ix, No. 29.

[7] Batalow, A. E.: Vratch, 1901, No. 19.

[8] Von Arlt, F. R.: Heilkunde, vi, No. 11. Wochft. für Ther. und Hyg. des Auges, No. 11, 1902.

[9] Wolffberg, Wochft. f. Ther. u. Hyg. d. Auges, iii, No. 4, Jan. 8, 1903.

[10] Bloch, R.: Therap. Monats., viii, p. 418; Heilkunde, vi, No. 11; Deutsche Praxis, 1903, No. 25.

[11] Sanz Blanco: Arch. de Ophthal., August, 1904.

Special Articles

MEDICAL AFFAIRS IN THE HEART OF THE ARCTICS.

N. SENN, M.D.
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CHICAGO.

The geographic distribution of disease, the study of primitive races, of their climatic conditions, customs, habits and manner of living as etiologic influences, their methods employed in combatting disease and their resources in the treatment of accidents are subjects which can not fail to interest physicians who are concerned in the progress of their profession and the welfare of humanity the world over.

My vacation trip this summer brought me in touch with, and afforded me an excellent opportunity to study, one of the most interesting peoples in the world, the Eskimos of the far north, in the very heart of the Arctic region. These people are scattered in small settlements along the northern part of the west coast of Greenland, extending from Upernavik to Etah, a distance of about 600 miles. Etah is the most northern habitation of the Eskimos. It is in latitude 78° 40′ N. and is less than 700 miles from the North Pole. It is in the heart of the Arctic region, where so many fearless explorers have spent their long, dark winter night preliminary to the dash for the North Pole on foot and sledges over ice and hummocks of ice. It is here where so many hopes were shattered, where so much suffering was endured and where not a few brave sailors have found a premature grave.

Fig. 1.—Baffin Land Eskimo.

Fig. 2.—Eskimo family.

This unusual opportunity to visit the headquarters, the starting point of the Arctic explorers and the interesting people who live in this remote part of the inhabited world was presented to me through the courtesy of Commander Robert E. Peary, U. S. Navy, the famous explorer of the far North. Dr. Frederick Sohon of Washington, D. C., and myself were the only passengers on the *Erik*, which sailed from Sydney, Nova Scotia, Monday, July 17, with a cargo of coal for the Peary Arctic expedition now under way to the much-sought-for pole. Commander Peary and his crew sailed later from the same port on the *Roosevelt*, and it was understood that we should meet in North Star Bay on or before August 10. The *Roosevelt* met us in that place August 9, and proceeded at once to Etah. Commander Peary came on board the *Erik* to conduct the walrus hunt which was to take place in Murchison's Sound, between the two stations, and to pick up along the coast the Eskimos who were to form a part of the expedition. This trip, as well as the few days at Etah with the two ships lying side by side, gave rise to a good opportunity to become well acquainted with Commander Peary and to receive from him much valuable information concerning the Arctic region and its scanty population of Eskimos. Many of the members of the crews of both vessels were familiar with Arctic conditions and the customs and habits of the Eskimos. From these sources and the results of my own observations I have collected the material incorporated in this paper.

The real Eskimos inhabit the west coast of Greenland, north of the Danish colonies, beyond the limits of civilization. The Eskimos of the Cape York settlement were taken on board the *Roosevelt*. The *Erik* called at all the other settlements and the commander selected his material for the native part of the expedition as we went along, so that practically all of these came under my observation. The final weeding out of the undesirable took place at Etah before the *Roosevelt* sailed for the farthest North, at 3 a. m., Thursday, August 17. Twenty-one persons were left here to establish their winter quarters and to form the base of the expedition. The *Erik* left Etah Wednesday, August 23, with orders to call at Godhavn on the return voyage to St. Johns, Newfoundland, where we arrived September 5.

THE REAL ESKIMOS.

The Eskimos within the limits of civilization, that is, those living in the Danish colonies and settlements, in Baffin Land and Labrador, have lost their original type and have largely abandoned their primitive way of living. Intermarriage with Europeans and Americans for more than a century has resulted in a mixture of races which has either completely effaced the typical Eskimo physiognomy or has, at any rate, modified it so much that it has become almost unrecognizable (Fig. 1). Many of the Eskimos in Danish Greenland would

Fig. 3.—Eskimo woman.

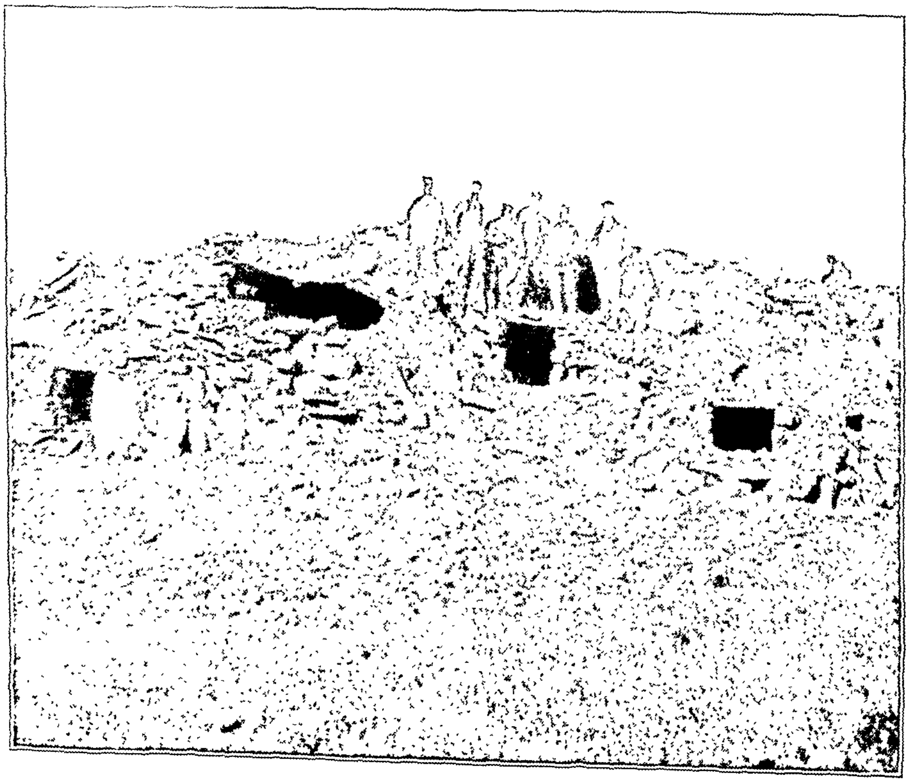


Fig. 4.—Igloo (Eskimo stone hut).

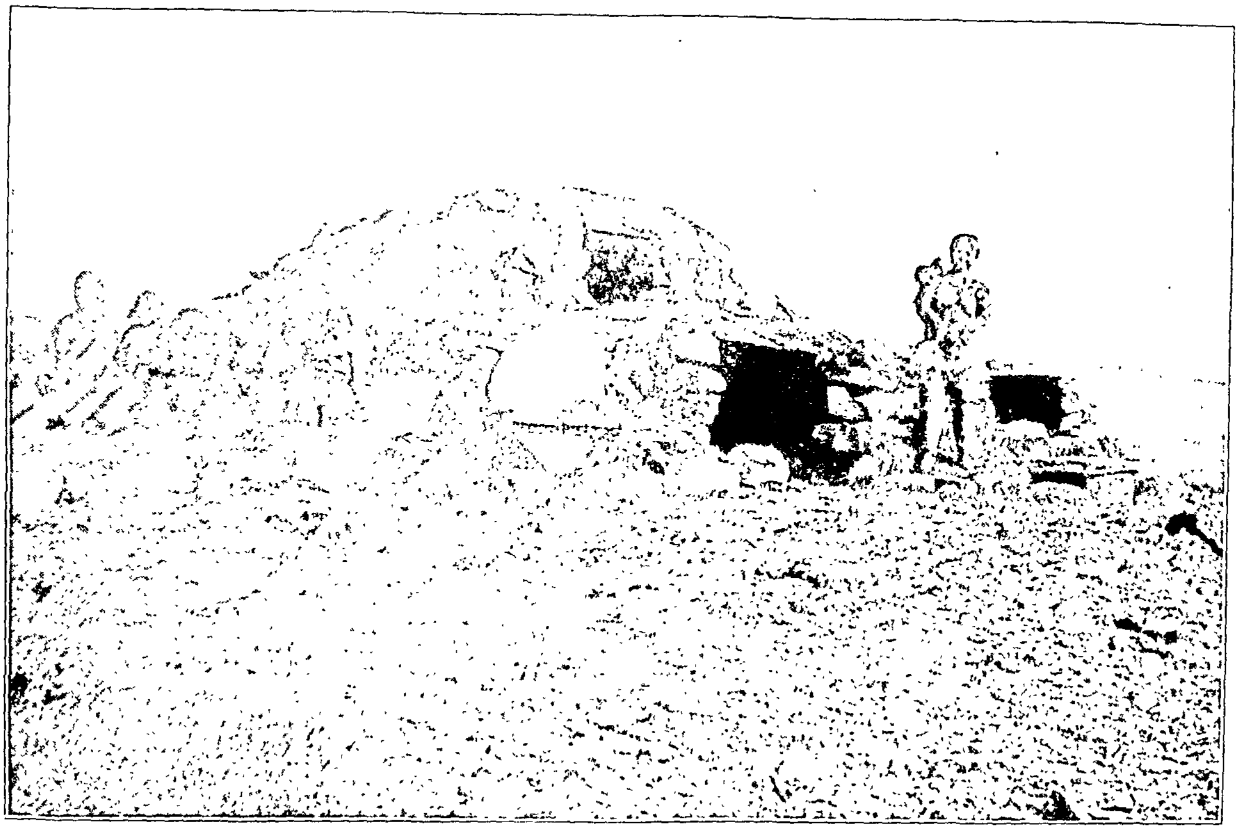


Fig. 5.—Igloo.

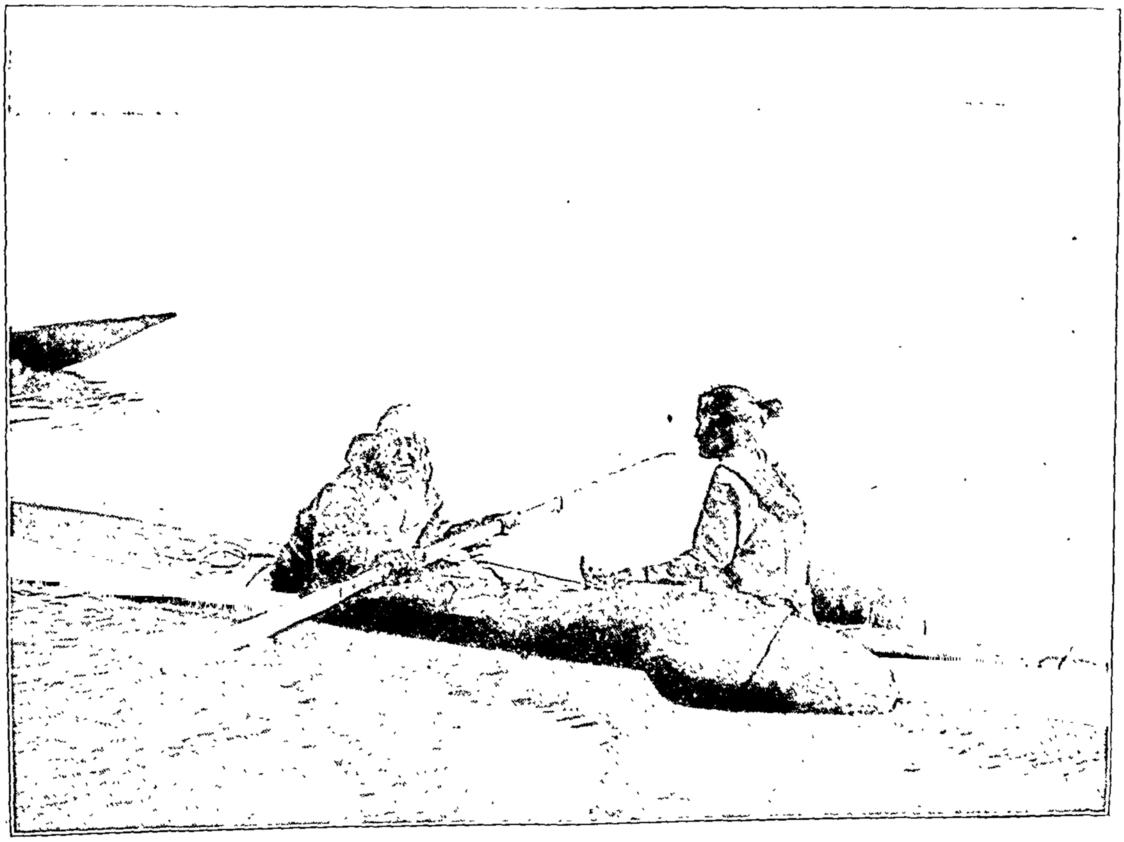


Fig. 6.—Eskimo man and woman in a kayak.

be taken anywhere for Danes or Scandinavians, so far as their appearance is concerned, rather than for natives of the Arctics. The round, full, flat face has, in the course of many generations, been moulded into a face characteristic of the people inhabiting the countries of North Europe. Blond hair and blue eyes, something never seen in a genuine Eskimo, are by no means uncommon here. In Labrador and Baffin Sound similar changes have occurred in consequence of race mixture. The Eskimos, like other primitive races when brought in contact with foreigners, have a longing to adopt their dress and manner of life, hence those who have lived among them have adopted habits and customs entirely different from those of the untutored, genuine Eskimos.

The real Eskimos are now only to be found in the heart of the Arctic region along the strip of the coast of Greenland that I have indicated. These people live in isolation and what little communication they have with the outside world through polar expeditions has made little if any impression on their manner of living (Fig. 2).

Commander Peary has been among these people a good deal of his time for the last 14 years. He knows them well, can call them by their names and has their unlimited confidence. He knows the history of all of them who are more than 2 years of age. He speaks their language and is perfectly familiar with their habits of life and the few diseases to which they have been subject since he first visited them. He is a very careful observer and his statements can be relied on.

Although the Eskimo race is a distinct one and has little in common with the Indians of North and South America, there can be no doubt of its Asiatic origin. The Eskimos are below average size, thick-set, legs short, face flat, malar bones and cheeks very prominent, well-shaped nose, although in many of them the bridge is somewhat depressed; eyes universally brown, lower jaw well developed, teeth regular, pearly white and in perfect condition; hair straight, coal-black; beard scanty, as well as the eyebrows and eyelashes; eye slit slightly narrowed, not oblique; forehead full and only slightly receding, mouth large, lips thin and fine-cut, color of skin dusky, cheeks florid with a copper tinge, hands and feet small, even delicate. The women are much smaller than the men, many of them being not more than four feet in height. Their garments are made of fur—bearskin for trousers, which are made long for men, short for women; the former wear short, the latter long sealskin boots (Figs. 2 and 3). The coat, with hood, is made of seal or foxskin, the former for summer and the latter for winter wear. Bird skins and the fur of the Arctic hare are worn for underclothing. The native dress is admirably adapted for the climate in which these people live, and Commander Peary has adopted it for himself and wears it summer and winter.

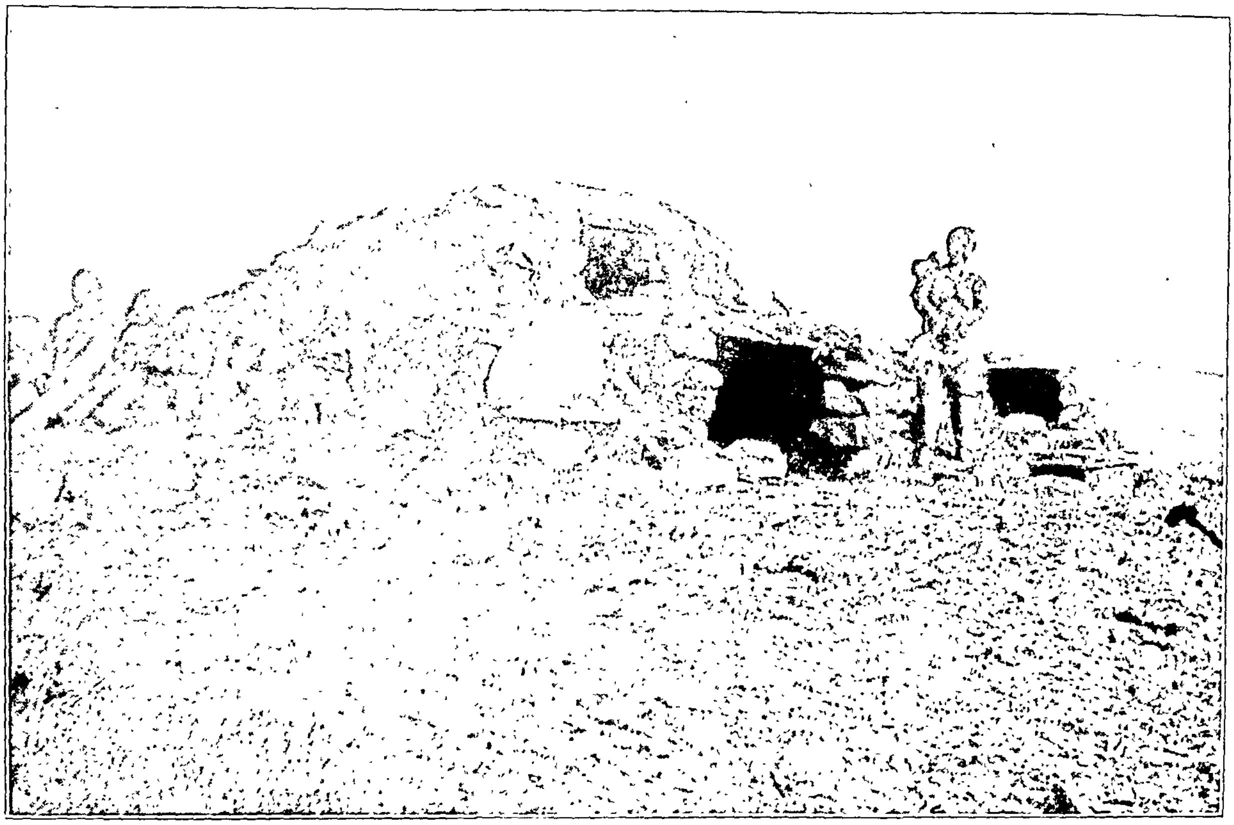
The Eskimos are the filthiest people in the world. They never wash, not even the face and hands. The smell of the fur clothing and secretions of the skin are productive of a stench about their persons and especially in their igloos and tents that is characteristic and at first very obnoxious to the uninitiated. During winter these people live in huts (igloos) (Figs. 4 and 5), of stone or ice; in summer in tents of sealskin. Furs are used for the common family bed and each occupant, from father to babe, strips completely before retiring. They do not marry in the sense in which we use this word, but mate like animals for convenient periods of time, which may be for life, for a year, or only for a hunting trip of a few days. Exchange of mates for an indefinite time is of common occurrence.

These people are all children, contented, peaceable, honest and hospitable; they are without a ruler and without any ambition for fame or power—an ideal socialistic community where property is held in common, politics unknown, and where all are on the same social plane.

They subsist almost exclusively on a raw animal diet, which explains the absence of a number of diseases that are common among the civilized people. Salt water contains iodin, and all animals living in it and all animals which live on sea food absorb more or less of this fickle chemical substance. None of these people has ever suffered from scurvy, which was such a common affection among the crews of the early polar expeditions and which occasionally afflicts the Eskimos who consume more cooked than raw animal food. Peary has profited by this observation, and places great importance in supplying his crew with fresh meat, and has never seen a case of scurvy among them. He has found by experience that lime juice, which formerly enjoyed such an enviable reputation as an antiscorbutic, is not only useless but harmful. Taken in the Arctic region, it acts as a cathartic and becomes distasteful to those who have used it.

The iodized raw animal food also explains satisfactorily the absence of enlarged tonsils, cervical lymphatic glands and goiter. I examined the throats and necks of many Eskimos and found the tonsils and thyroid glands in all of these in a markedly atrophic condition, and in none of them, except in two syphilitics, were there any palpable cervical lymphatics. The perfect, splendid teeth and strong lower jaw are the anatomic points of the carnivorous diet. I examined the mouths of several persons between 60 and 70 years of age and found every tooth in place and firm but ground away by long usage almost to the level of the healthy gums. The vocation of the Eskimos, both men and women, requires very little use of the legs, consequently they have suffered in length while, on the other hand, paddling of the kayak (Fig. 6), throwing of the harpoon and lance and handling of the dog-whip have resulted in the course of centuries in an unusual development of arms and chest.

Although I have no positive information on the subject, I am satisfied that the exclusion of all vegetable food from the diet has shortened the gastrointestinal canal, that the appendix, if present at all, is in the most rudimentary form and that the glands concerned in the digestion of starchy food have become atrophic, while those whose secretion is needed for the digestion of meat and the emulsification of the fats are hypertrophic. The stomach digestion of these people is something wonderful. Indigestion is about as infrequent as in the dog—in fact I believe there is the closest analogy between the anatomy and physiology of the organs of digestion of the Eskimo and the only domestic animal with which he is familiar, the dog. Commander Peary and a number of the men of both crews, who have seen much of Eskimo life, can not remember of ever having seen a case of chronic indigestion, peritonitis, or intestinal obstruction. Hair and fragments of bone taken with the food by the dog occasionally produce peritonitis in this animal, but these mechanical causes for such affections of the intestinal canal are excluded from the diet of the Eskimo. We would naturally conclude that an exclusi



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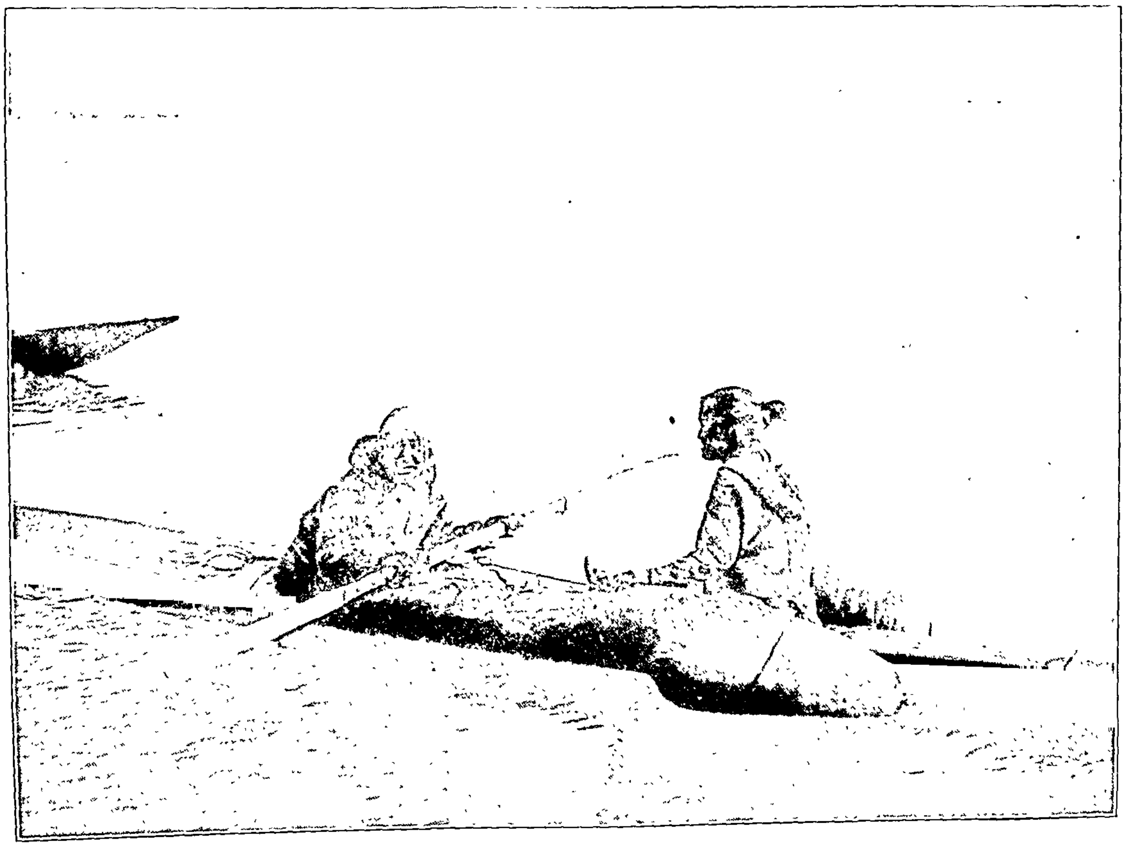

Fig. 6.—Eskimo man and woman in a kayak.

be taken anywhere for Danes or Scandinavians, so far as their appearance is concerned, rather than for natives of the Arctics. The round, full, flat face has, in the course of many generations, been moulded into a face characteristic of the people inhabiting the countries of North Europe. Blond hair and blue eyes, something never seen in a genuine Eskimo, are by no means uncommon here. In Labrador and Baffin Sound similar changes have occurred in consequence of race mixture. The Eskimos, like other primitive races when brought in contact with foreigners, have a longing to adopt their dress and manner of life, hence those who have lived among them have adopted habits and customs entirely different from those of the untutored, genuine Eskimos.

The real Eskimos are now only to be found in the heart of the Arctic region along the strip of the coast of Greenland that I have indicated. These people live in isolation and what little communication they have with the outside world through polar expeditions has made little if any impression on their manner of living (Fig. 2).

Commander Peary has been among these people a good deal of his time for the last 14 years. He knows them well, can call them by their names and has their unlimited confidence. He knows the history of all of them who are more than 2 years of age. He speaks their language and is perfectly familiar with their habits of life and the few diseases to which they have been subject since he first visited them. He is a very careful observer and his statements can be relied on.

Although the Eskimo race is a distinct one and has little in common with the Indians of North and South America, there can be no doubt of its Asiatic origin. The Eskimos are below average size, thick-set, legs short, face flat, malar bones and cheeks very prominent, well-shaped nose, although in many of them the bridge is somewhat depressed; eyes universally brown, lower jaw well developed, teeth regular, pearly white and in perfect condition; hair straight, coal-black; beard scanty, as well as the eyebrows and eyelashes; eye slit slightly narrowed, not oblique; forehead full and only slightly receding, mouth large, lips thin and fine-cut, color of skin dusky, cheeks florid with a copper tinge, hands and feet small, even delicate. The women are much smaller than the men, many of them being not more than four feet in height. Their garments are made of fur—bearskin for trousers, which are made long for men, short for women; the former wear short, the latter long sealskin boots (Figs. 2 and 3). The coat, with hood, is made of seal or foxskin, the former for summer and the latter for winter wear. Bird skins and the fur of the Arctic hare are worn for underclothing. The native dress is admirably adapted for the climate in which these people live, and Commander Peary has adopted it for himself and wears it summer and winter.

The Eskimos are the filthiest people in the world. They never wash, not even the face and hands. The smell of the fur clothing and secretions of the skin are productive of a stench about their persons and especially in their igloos and tents that is characteristic and at first very obnoxious to the uninitiated. During winter these people live in huts (igloos) (Figs. 4 and 5), of stone or ice; in summer in tents of sealskin. Furs are used for the common family bed and each occupant, from father to babe, strips completely before retiring. They do not marry in the sense in which we use this word, but mate like animals for convenient periods of time, which may be for life, for a year, or only for a hunting trip of a few days. Exchange of mates for an indefinite time is of common occurrence.

These people are all children, contented, peaceable, honest and hospitable; they are without a ruler and without any ambition for fame or power—an ideal socialistic community where property is held in common, politics unknown, and where all are on the same social plane.

They subsist almost exclusively on a raw animal diet, which explains the absence of a number of diseases that are common among the civilized people. Salt water contains iodin, and all animals living in it and all animals which live on sea food absorb more or less of this fickle chemical substance. None of these people has ever suffered from scurvy, which was such a common affection among the crews of the early polar expeditions and which occasionally afflicts the Eskimos who consume more cooked than raw animal food. Peary has profited by this observation, and places great importance in supplying his crew with fresh meat, and has never seen a case of scurvy among them. He has found by experience that lime juice, which formerly enjoyed such an enviable reputation as an antiscorbutic, is not only useless but harmful. Taken in the Arctic region, it acts as a cathartic and becomes distasteful to those who have used it.

The iodized raw animal food also explains satisfactorily the absence of enlarged tonsils, cervical lymphatic glands and goiter. I examined the throats and necks of many Eskimos and found the tonsils and thyroid glands in all of these in a markedly atrophic condition, and in none of them, except in two syphilitics, were there any palpable cervical lymphatics. The perfect, splendid teeth and strong lower jaw are the anatomic points of the carnivorous diet. I examined the mouths of several persons between 60 and 70 years of age and found every tooth in place and firm but ground away by long usage almost to the level of the healthy gums. The vocation of the Eskimos, both men and women, requires very little use of the legs, consequently they have suffered in length while, on the other hand, paddling of the kayak (Fig. 6), throwing of the harpoon and lance and handling of the dog-whip have resulted in the course of centuries in an unusual development of arms and chest.

Although I have no positive information on the subject, I am satisfied that the exclusion of all vegetable food from the diet has shortened the gastrointestinal canal, that the appendix, if present at all, is in the most rudimentary form and that the glands concerned in the digestion of starchy food have become atrophic, while those whose secretion is needed for the digestion of meat and the emulsification of the fats are hypertrophic. The stomach digestion of these people is something wonderful. Indigestion is about as infrequent as in the dog—in fact I believe there is the closest analogy between the anatomy and physiology of the organs of digestion of the Eskimo and the only domestic animal with which he is familiar, the dog. Commander Peary and a number of the men of both crews, who have seen much of Eskimo life, can not remember of ever having seen a case of chronic indigestion, peritonitis, or intestinal obstruction. Hair and fragments of bone taken with the food by the dog occasionally produce peritonitis in this animal, but these mechanical causes for such affections of the intestinal canal are excluded from the diet of the Eskimo. We would naturally conclude that an exc animal diet would cause constipation and a uric acid diathesis with a long train of their remote consequences —headache, insomnia, skin eruptions, gout, rheumatism, etc.—but this is not the case. The large percentage of oil contained in their diet acts as a gentle laxative and protects them against a multitude of ailments which form the major part of the diseases with which the general practitioner has to deal. The Eskimo can eat with relish and without any ill consequences old, stinking blubber that would turn the stomach of a crow and that if eaten by a white man, if he could retain it, would kill him by producing ptomain poisoning.

The skin of the Eskimo, covered with filth and vermin, is remarkable for its smoothness and immunity to skin diseases. The only skin eruptions I have seen among the large number of Eskimos of all ages I examined was a patch of psoriasis over the posterior surface of the elbow of a syphilitic, and a small pustular eruption affecting one ala of the nose in an infant suffering from a nasal catarrh. The very fact that these people fear and avoid the external use of water may account for their freedom from diseases of the skin. The exposure of the hair to the midnight sun for more than three months of the year and the wearing of a loose hood of fur during the winter favors hair growth. Baldness is unknown here and even Time finds it difficult to bleach the coal-black hair and beard. Men and women of 60 and more years show only here and there a gray streak in the luxuriant hair never touched by the comb.

The special senses, except that of smell, are very keen and old age appears to have little if any influence in diminishing the acuteness of sight and hearing. The acuteness of vision for near and distant objects of these people is something that will astonish the visitor. I became aware of this on my hunting trips under the guidance of Eskimos. They could see a hare or a bird far beyond the reach of my vision and could calculate the distance with an infallible accuracy, something no one is capable of doing who is not habituated to the rarity of the atmosphere of the Arctic region.

DISEASES.

It would take much less space to enumerate the diseases to which the Eskimos are subject than to name se to which they appear to be almost immune so long they live in their own climate and do not deviate m their customary habits of life.

Tuberculosis in any form is unknown among the Esıos in the heart of the Arctic region. I heard no hisical cough, saw no emaciated forms nor hectic ısh; no cases of lupus, glandular, joint or bone tuberculosis and no cripples except the man who lost part of one foot from frost bite. Experience, however, has shown that as soon as these people are brought to the United States they contract pulmonary tuberculosis of the most virulent form and succumb to the disease in a few months. Of six persons brought to the American Museum of Natural History in New York all contracted the disease and in less than six months four of them were dead, one returned and recovered and one remained in New York still suffering from a more lingering form of the disease. The one who returned to his Arctic home and resumed his former manner of living made a very speedy and permanent recovery, a strong argument in favor of the Arctic region as a summer resort for tubercular patients. The focus of infection created by this patient in the settlement to which he came and where he has since lived has proved harmless during the eight years that have expired since his return.

Rheumatism is one of the most prevalent diseases among the Eskimos. At the North Star Bay settlement I found a man about 35 years of age in one of the tents completely crippled by this disease which, according to Peary, commenced twelve years before. He was lying helpless on his reindeer skin, with every large joint of all the limbs contracted and stiff. The left elbow was swollen, painful and exquisitely tender to the slightest touch. He was smoking and appeared to be not in the least concerned about his helpless condition, as, according to the prevailing custom among the natives, the tribe provided him and his family with food and clothing. Lumbago and sciatica frequently affect in this climate the crews of expeditions and whalers.

Venereal diseases were introduced here by the whites and have become widely diffused throughout the native population, owing to the unrestrained, promiscuous intercourse practiced everywhere. Syphilis pursues a very mild course in the natives. None of the terrible ravages of the tertiary form of this disease, with which we are so familiar, are seen here. I have no doubt that the iodin contained in their food furnishes a satisfactory explanation for this. A well-known Eskimo is known to have contracted the disease eight years ago. He has had no treatment of any kind and is now in perfect health and the father of several healthy, vigorous children. I examined a boy about 15 years of age who was then the subject of secondary lesions. I found mucus patches on the inner surface of the lower lip, general lymphatic hyperplasia but no cutaneous eruptions. The severest case of tertiary syphilis I have seen was in the case of a man about 50 years of age whose woman was infected by a member of an Arctic crew some eight or ten years ago. One of her children of a corresponding age, a girl, is a half-caste, pale and delicate. This man bore all the marks of a syphilitic cachexia; his arteries were atheromatous, a patch of psoriasis affected the posterior aspect of one of the elbow joints and the cervical and epitrochlear glands were very much enlarged. I did not see a single case of saddle-nose, of gumma, periostitis, Hutchinson's teeth or syphilitic alopecia. These facts prove conclusively that syphilis among these people pursues an unusually benign course, for which we must give credit to their liberally iodized sea food. Gonorrhea seems to follow the same benign course. Careful inquiry and abundant testimony from reliable sources combine to show that stricture, orchitis and cystitis do not exist. I questioned Commander Peary and Mr. Henson, his main man, who have spent seven winters among these natives, with special reference to the existence of urinary difficulties among old men. From their accounts it appears that prostatic obstruction does not exist, as they have seen many of the men urinate, and noticed that the stream was large and strong. The sexual life of these people and the iodized food may account for the absence of senile prostatic hypertrophy and its consequences, urinary obstruction and eventually renal disease. I saw one case of gonorrheal ophthalmia of a mild form in an adult and complete corneal opacity of one eye in the case of a young girl, caused undoubtedly by this disease. One man and a woman had each lost an eye from traumatic causes.

Winter Anemia.—The long winter, with its attendant darkness and long confinement in the small, badly-ventilated huts, to which is often added a lack of sufficient food, is productive of anemia and its results, debility, insomnia and nervousness. Commander Peary anticipated this change in the conditions of the blood and the defective nutrition and guards against them by keeping his crew and the Eskimos as much as possible out of doors and busy, and supplying them with an abundance of fresh meat. He has found this prophylactic treatment equally effective with both contingents of his expedition. The general lack of nutrition during the long winter night is best shown in the case of his little daughter. She was born in Bowdoin Bay, an arm of Inglefield Gulf, in September. Her weight and size remained the same until the sun made his appearance and she was taken out daily in the open air in a dog sledge, when she commenced to grow rapidly and the blush of health and vigor appeared in her face. Nature takes a long rest in the Arctic region and this affects animal as well as vegetable life; the former comes to a standstill, the latter, for the time being, completely suspended. With the appearance of the sun reanimation takes place, which reaches its maximum during the long and uninterrupted reign of the midnight sun. The effect of the midnight sun on vegetation in the Arctic region is remarkable. What takes place in plant growth with us in months is accomplished here in as many weeks. In four to six weeks the flowering plants bud, blossom and mature their seed. Animal life during this time receives the same stimulating benefit from the sun.

Affections of the Nervous System.—Insanity among the Eskimos is unknown. As these people have never been given an opportunity to indulge in alcoholic drinks they are free from all affections due to alcoholism. Smoking is a new vice with them which crept in a few years ago, but as the supply of tobacco is irregular and most of the time scanty or entirely lacking, it has so far produced no ill results. The natives, however, have a strong liking for the weed and when the supply of tobacco warrants it, young and old enjoy the pipe, which makes its rounds if only one is at their disposal. I have seen children on their mothers' backs do their good share in burning up the contents of a pipe. The same causes which combine in the causation of winter anemia result occasionally in producing a nervous condition closely allied to, if not identical with, hysteria. Peary in 1900, on his trip to the northeast coast of Greenland, witnessed this condition and describes it as follows: "When we were drinking our tea one of the younger Eskimos fell in a fit and the others became hysterical. I felt a peculiar dizzy sensation myself. Recognizing the effect of our alcohol cooker in the close atmosphere of the igloo, with every aperture sealed by the newly-fallen snow, I hurriedly kicked out the door and a portion of the front wall. This relieved matters, and I sent three of the Eskimos outside to get the benefit of the fresh air, while I took the two worst ones in hand personally, and finally succeeded in quieting them down. After this they were 'ankooting' all day. The open water ahead of us, the groaning pack beside us, the bad weather and the, to them, mysterious attack of the morning, had combined to put them all in a very timid and unsteady frame of mind" (*McClure's Magazine*).

It is well known that the long winter, with its depressing effects on body and mind, often disturbs the equilibrium of the otherwise well-balanced nervous system of the natives. But the nervousness, or call it hysteria, never becomes chronic, and disappears under more favorable climatic or dietetic conditions. A similar train of nervous symptoms has not infrequently been observed in members of Arctic expeditions who wintered here and the depression in one or two cases has been so grave as to induce the poor sufferers to seek relief by committing suicide. I could not learn of a single case of epilepsy, chorea or apoplexy.

(*To be continued.*)

IMMUNITY.

CHAPTER XXXI (Concluded).

OIDIOMYCOSIS.

Under the name of oidiomycosis may be included first, the diseases usually called blastomycosis, saccharomycosis and coccidioidal infection, and second, thrush, whether local or generalized.

In 1894 Gilchrist described a skin disease, which has since been known as blastomycetic dermatitis, or blastomycosis or oidiomycosis of the skin. From a second case he cultivated a fungus which at first he was inclined to consider as an oidium but later called a blastomyces. Since that time many similar cases, especially in Chicago and the adjacent territory, have been discovered and reported by Wells, Hektoen, Hessler, Hyde and Montgomery, Ricketts and others. In many instances the specific fungi have been cultivated.

Systemic Oidiomycosis.

Further investigations by Rixford and Gilchrist, Busse, Ophüls and Moffit, Hyde and Montgomery and others have brought to light the existence of systemic infections by fungi which resemble closely those found in blastomycetic dermatitis, and, in fact, cases in which the infection primarily was limited to the skin have gone on to generalized infection. The *Saccharomycosis hominis* of Busse and of Curtis, blastomycetic dermatitis, generalized blastomycosis, and about a dozen cases in California which at one time were considered to be of protozoön etiology (Rixford and Gilchrist), are closely related or identical processes which have as their cause a group of fungi, the individual strains of which may show considerable differences.

Histology.

The skin infection usually appears as a coarse warty and ulcerative lesion, in which the large papillæ and cutaneous areola are beset with minute abscesses; the process extends gradually and eventually may involve large areas. Histologically, the tissue shows an enormous epithelial hyperplasia with intraepithelial abscesses, and a richly cellular, granulomatous condition of the subepithelial tissue, in which giant cells and small abscesses are found. When the disease is systemic, various internal organs, especially the lungs, spleen and kidneys, are the seats of abscesses and nodules which contain the parasites in immense numbers. The lungs show lobular or more extensive consolidation.

Nature of Fungi.

In those cases usually described as blastomycetic dermatitis or systemic blastomycosis, the fungus proliferates by budding, and is found chiefly in the intraepithelial and subcutaneous abscesses, and in the granulation tissue and nodules of internal organs. Its appearance in culture media and its biologic properties are subject to considerable variations, at one time growing as a mold, at another time more like the typical oidium, and again resembling some form of yeast. Ricketts considers that the genus oidium is sufficiently broad to include all the types which have been described, and that blastomyces is too narrow. The organisms which have been cultivated from the cases in California grow as molds, and they differ from those described by Gilchrist, Hektoen, Ricketts and others, in that they form endospores and apparently do not bud in the tissues of the host (Ophüls, Wolbach). Ophüls calls this parasite *Oidium coccidoides*, agreeing with Ricketts as to the generic character of the group.

Infection Atria.

The skin infection occasionally follows slight traumatism while in other instances no predisposing condition is known by the patient. The occurrence of cutaneous lesions in crops has been noted, and suggests that in some instances they may originate as embolic foci from a pulmonary lesion which later heals or becomes latent. In the systemic infection the primary lesion appears to be in the lungs in most cases, from which the blood and other organs, including the skin, may be invaded. Pulmonary oidiomycosis simulates pulmonary tuberculosis. In extensive involvement of the lungs the organisms may be demonstrated in the sputum. At present nothing is known concerning immunity to these infections.

Fungi of the type found in cutaneous or generalized oidiomycosis are widely distributed in nature, and the comparative rarity of the disease suggests that their virulence usually is low, or that susceptibility is rare; perhaps both conditions exist.

THRUSH.

Thrush is one form of oidiomycosis and is of particular interest because of the early date at which its parasitic nature was recognized. Langenbeck and Berg, in 1839 and 1841, are cited as the discoverers of the fungus, and they reproduced the disease by inoculations with fragments of the membrane. The parasite was studied a little later by Gruby, Robin and others and the latter gave it the name of *Oidium albicans.* Grawitz obtained it in pure culture in 1877 and demonstrated its pathogenicity for dogs and rabbits.

Cultures obtained from different cases show differences in size, morphology, chemical activities and methods of proliferation, although the variations are hardly so wide as those found in the organisms cultivated from cases of "blastomycosis."

Systemic Infection.

Although thrush usually is considered a rather harmless affection, Virchow long ago showed that its filaments may penetrate the submucous tissues and even into the blood vessels. In rare instances systemic infection, with abscesses in the brain, kidney and spleen, or with consolidation of the lungs, have been noted; in these cases the conditions resemble those found in systemic "blastomycosis."

The healthy person has little or no susceptibility to thrush, although a few cases of infection have been noted in individuals who were otherwise normal. Customarily it attacks only those who are in a low state of vitality, as poorly nourished children or those in advanced age, or those whose resistance is much lowered by some other disease (typhoid, diabetes, etc.).

Phagocytosis and Immunity.

Phagocytosis of yeast and oidium-like cells takes place when they are placed in the abdominal cavity of experiment animals (guinea-pigs). A number of leucocytes may fuse to form a plasmodial mass around one or more of the parasitic cells. Roger and Noisette caused an increase in the resistance of rabbits to thrush infection by the intravenous injection of small doses of the parasite. According to Noisette, an immune serum agglutinates only the strain used in the immunization.

Infections of other animals (horses, cattle) by oidium-like organisms, the trichophyton and other fungi which cause superficial diseases in the skin of man, and other fungi (aspergillus, mucor), which occasionally are pathogenic for man, will not be discussed.

CHAPTER XXXII.

ANTHRAX.

From the standpoint of infection and immunity anthrax is of particular interest. It is the first disease of which the bacterial etiology was proved and in which the specific microbe was used in pure culture for the production of artificial immunity (vaccination).

Anthrax is particularly a disease of cattle and sheep, and it prevails in certain European countries, especially Russia, in Australia and in South America. It does not occur extensively in this country. Definite regions are at times heavily infected, and it is in such localities that the disease is most frequently transmitted to man.

Bacillus Anthracis.

As early as 1850 Rayer and Devaine, also Pollender, had discovered the presence of small rods and filaments in the blood of animals which had died of anthrax, and the work of Koch, Pasteur and others soon established that this rod, the anthrax bacillus, is the cause of anthrax. The discovery of Koch that the bacilus forms extremely resistant spores, explained the persistance with which the disease infects particular localities.

Spores.

The anthrax bacillus is a fairly large organism, is rod-shaped, non-motile and grows with characteristic appearances on various culture media. With the proper temperature and culture medium, and in the presence of free oxygen, the formation of spores begins after about twenty-four hours of growth. Their evolution is complete in from one to two days, and eventually the protoplasm of the cells disintegrates and the spores are set free. Spores are not formed in the body of an infected animal. Anthrax prevails especially in the spring and summer, and the bacilli as they are discharged with the urine or feces find in the open air and warm temperature conditions which are favorable for the formation of spores. Spore formation is not essential, however, for the continued life of the organism; at high temperatures (42 C.), and in the presence of minute amounts of acids and alkalis or of carbolic acid, strains may be so altered that they lose permanently the ability to produce spores. Under favorable conditions the spores germinate completely in from three-quarters to one and one-half hours (Grethe) by a process in which they lose their refractive appearance and assume first an oval and then a rod shape. In the body a capsule surrounds the bacillus, and it grows singly or in very short chains; in culture media it is very difficult to obtain capsules. The long threads which appear in culture media, especially bouillon, are not found in infected animals.

Resistance and Virulence.

The bacillus itself shows no unusual resistance, but its spores are more resistant than those of any other pathogenic bacterium. When dried on a thread they have been known to live for from ten to twelve years. Corrosive sublimate (1-2,000) kills them in forty minutes (Fraenkel), and direct sunlight in about 100 hours (Momont). *Bacillus pyocyaneus.* streptococci, staphylococci and the bacillus of Friedlander are said to antagonize its growth.

The anthrax bacillus is remarkable for its infectiousness. A twenty-millionth of a loop of a virulent culture will cause a fatal infection in mice, guinea-pigs and rabbits, when given subcutaneously. A systemic infection may be produced by feeding the spores or causing animals to inhale them. The gastric juice is able to kill the bacilli, but not the spores, which germinate after they reach the intestines.

The organism is distributed by the excretions of diseased animals, and after their death the adjacent soil becomes heavily infected by the discharges which escape from the intestines and bladder. In this situation the bacilli pass into the sporing stage, in which they remain viable and virulent for a long time.

Infection Atria.

The infection of herds usually is accomplished by the ingestion of spores which have been distributed in this way, the spores germinating after they have reached the intestines as described above. The disease may be primary in the skin in the form of malignant pustule. In man malignant pustule is the commonest type of infection, occurring especially among those who have to do with cattle and sheep. The bacilli, however, may gain entrance through the lungs as in the so-called "wool-sorter's" disease, which is caused by the inhalation of infected dust from the raw material.

The generalized infection in all animals is rapidly fatal (one to three days), and the occurrence of death is sometimes so sudden as to be called apoplectiform; in man the mortality is about 50 per cent. Malignant pustule runs a more favorable course.

Toxin!

The general infections are marked by symptoms of intense intoxication and acute degenerative changes are produced in the parenchymatous organs. Massive numbers of the bacilli are found in the blood. Neither a soluble toxin nor an endotoxin characteristic for the organism has been demonstrated up to the present time (Sobernheim), although there is abundant clinical and anatomic evidence of intense intoxication. The production of mechanical injuries by the large masses of bacilli in the circulation is doubtful.

Prophylaxis.

Rational prophylaxis involves the proper disposal of the bodies of animals which have died of anthrax, the exclusion of animals from fields known to be infected, suitable disinfection of stalls, and finally protective inoculation against the disease. No part of the anthrax cadaver should be used for commercial purposes because of the danger of infecting those who work with the raw materials. Cleanliness and the usual precautions against contagious diseases should be observed by those who are exposed to infection, bearing in mind that the disease may be transmitted by way of the lungs and alimentary tract as well as by the skin.

Natural Immunity and Susceptibility.

It is probable that no disease is more perplexing from the standpoint of immunity than anthrax. The variations in susceptibility and immunity among different animals are extreme: Guinea-pigs, rabbits and mice are probably more susceptible than sheep and cattle; compared with these the dog and rat are relatively immune, whereas fowls and cold-blooded animals can be infected with difficulty. Although the microbe is readily killed by suitable serums (rabbit, e. g.), such an effect is not an index of immunity. The serum of the highly susceptible rabbit is strongly bactericidal in test-glass experiments, whereas that of the more resistant dog, or rat, has little or no bactericidal power. Because of this inconsistent relationship of the serum to immunity, and since the leucocytes have a high phagocytic power for the anthrax bacillus, Ptruschky, Frank and others, agree with Metchnikoff in assigning variations in the natural immunity of different animals to variations in phagocytic power. Bail and Pettersson, in extensive experimental work, discovered conditions which, they believe, explain the lack of correspondence between serum properties and natural immunity. In the serum of the relatively immune dog and chicken they found bactericidal amboceptors but no complement; hence the serum could show no bactericidal action in the test glass. If, however, leucocytes from the same animals were added to the serum, the latter became bactericidal. It may be assumed that in the course of infection the amboceptors are activated by complement which is discharged from the leucocytes. The failure of the bactericidal substances of the rabbit's serum to protect the animal was ascribed to the ability of the tissues to absorb the amboceptors (cited from Sobernheim). Their work is of sufficient importance to demand repetition.

Wright has shown the importance of the opsonins for phagocytosis of the anthrax bacillus.

Recovery from spontaneous infection is said to confer a certain degree of immunity of some duration.

Vaccination.

Artificial immunity may be produced by active or passive immunization. The first attempts at vaccination were made in 1880 by Toussaint, who injected the blood of infected animals after it had been heated to 55 degrees for ten minutes. The bacilli were thus attenuated, but they were able to form spores subsequently and vaccination was not always successful. Pasteur used two vaccines. Vaccine I consisted of a culture which was attenuated by a growth at 42 C., and which contained no spores. Vaccine II was a virulent culture, and was injected in from ten to fourteen days after vaccine I. Its use is said to have caused a decrease in anthrax in heavily infected districts, with a consequent decrease of the disease in man. Various modifications of the vaccines of Pasteur have been devised by others, and they seem to be equally successful. In some instances killed bacilli and the products of bacterial growth have been used with less success. The *Anthracase-Immunproteidin* of Emmerich and Löwe is not of established value.

Serum Therapy and Prophylaxis.

Immune serum for therapeutic purposes is prepared by immunization, first with killed or attenuated cultures and then with virulent strains. The two vaccines of Pasteur may be used. Although the serum has been shown to have fairly strong protective powers, it is of less value when used for curative purposes. It produces no effect after the blood stream has been invaded by the bacilli. Its greatest value is in the prophylactic injection of herds when anthrax has declared itself. In man it has been used chiefly in the treatment of malignant pustule in which the prognosis, even without specific treatment, is not unfavorable. The best known serums are those of Sclavo, prepared from the goat and ass, of Mendez and of Deutsch. The properties on which the value of the serums depends are unknown. Sobernheim is very positive in stating that the bactericidal power of an animal's serum is not increased by immunization or infection, and the existence of an antitoxin is not recognized. As in some other instances immunization may cause an increase in opsonins which would render the serum effective by its power to cause increased phagocytosis.

Mixed Immunization and Agglutination.

The method of Sobernheim, that of mixed active and passive immunization, seems to be successful as a prophylactic measure. The vaccine consists of a mixture of antiserum and bacilli. Immune and even normal serums at times may agglutinate the anthrax bacillus, but the reaction is inconstant, and the ability of an immune serum to cause agglutination is no index of its protective power. Agglutination is somewhat difficult of determination because of the tendency of the bacillus to grow in the form of chains.

RELAPSING FEVER.

The Parasite.

In 1868 Obermeier discovered in the blood of patients suffering from relapsing fever, "very fine threads exhibiting motility"; these "threads" have since been known as the *Spirochete obermeieri*,* and are recognized as the cause of the disease. They are very thin (about 1 micron), from 10 to 40 microns in length, and of spiral form. Three types of motion are described: a screw-like, a forward and backward movement and a lateral bending. They are found only in the blood and blood-forming organs. They disappear from the blood with remarkable rapidity at the time of crisis, although they may be found in the spleen one or two days later.

The spirillum has not been grown artificially, but it may be kept alive for a number of days in the blood or serum of patients. As the micro-organisms die agglomerations are formed and they undergo granular changes.

Transmission.

The organism is not found in Nature, and since it occurs only in the blood of the sick, it has long been assumed that infection can be accomplished only by the inoculation of infected blood. The parasites have been demonstrated repeatedly in bedbugs which are found on the mattresses of the sickbed and monkeys have been infected by inoculating them with the blood found in the bodies of these insects, and by the bites of the latter (Tictin). It is said that they may remain alive in bedbugs for as long as thirty days. It is not altogether excluded that other vermin also transmit the disease.

The spirillum does not appear in any of the excretions, unless they happen to be of a bloody character.

Certain monkeys, those belonging to the slender nosed family (*Catarrhinæ*), may be infected by injecting the blood of patients, provided the blood used is taken during the paroxysm, i. e., at a time when the microbes are known to be in the blood. Monkeys do not contract the disease under natural conditions. Other animals are not susceptible. The incubation period in man usually is from five to seven days, and in monkeys from one and one-half to four days. Cloudy swelling of the parenchymatous organs, ecchymoses and infarcts of the spleen and kidneys are found in fatal cases; these are not specific changes, however.

Prophylaxis consists in isolation of the patient, cleanliness, and the destruction of vermin, especially bedbugs.

Relapsing fever occurs in various races of man, and so far as known none are immune.[1] The natural immunity of other animals is referred either to phagocytosis or to normal bacteriolysins, but the conditions probably are not thoroughly understood.

As stated above, a remarkable feature in the course of the disease is the rapidity with which the micro-organisms disap-

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* This organism is sometimes called a spirillum, incorrectly. The spirillaceæ, Migulas third family under the Order of Eubacteria, comprises organisms with these characteristics: "Cells which are twisted screw-fashion or represent a segment of a spiral. Division takes place only in one direction of space following elongation of the cell." The difference between spirillum and spirochæte is shown by the following: "3. Genus: Spirillum. Cells rigid, with polar tufts for the most part bent in the form of a half-circle as organs of locomotion. 4. Genus: Spirochæte. Cells with snake-like bending, organs of locomotion unknown."

[1] According to Osler the disease has not been seen in this country since 1869 when it was epidemic in New York and Philadelphia. This was before the discovery of the spirillum.

Phagocytosis and Bacteriolysins.

pear from the blood at the time of the paroxysm. Metchnikoff refers this to phagocytosis by the microphages, which undergo a progressive increase during the paroxysm and decrease after the crisis. Very little phagocytosis appears to take place in the circulating blood, but in the spleen many spirilla are found within polymorphonuclear leucocytes. Tictin also found them in the parenchymatous cells of the kidney, liver and lungs. Phagocytosis is most marked at or near the time of the crisis. According to Metchnikoff, the relapse or reinfection is accomplished by *spirilla* which again invade the body from the spleen.

Russian observers have studied the development of a specific bactericidal power in the serum of the sick and in animals which were immunized by the injection of infected blood from man. Inasmuch as the organism can not be cultivated, bactericidal tests must be performed with the organisms as they occur in the blood or serum of the patients, and Gabritschewsky has devised a technic for this procedure.

Technic.

A drop of serum from an immune animal or a convalescent patient is mixed on a slide with a drop of serum which contains the spirilla, the latter serum being taken from a patient during the paroxysm. The preparation is sealed under a coverglass and examined at intervals, and the death of the organisms is determined by their loss of motility. It is said that the bactericidal power of human blood following infection, and that of immunized animals, is increased.

Active and Passive Immunity.

In view of the facts that three or more relapses may occur and that reinfection is possible at a later period, it seems probable that man does not readily acquire immunity to the infection, although second and third relapses are said to be lighter than the first paroxysm. Monkeys which have been artificially infected several times acquire some resistance to the disease. The view of Metchnikoff that the spleen is essentially involved in recovery and immunity seems to have been disproved by the experiments of Tictin, who found that splenectomy had no influence on recovery or the development of immunity.

The serum of convalescents affords a certain degree of protection to the monkey (Gabritschewsky). Löventhal utilized the serum of immunized horses in the treatment of the disease in man, and reported a decrease in the number and severity of relapses. The action of the serum has been referred both to its content in bactericidal antibodies, and to its ability to stimulate phagocytosis.

Melkich states that agglutinins are formed and that they appear from the third to the fifth day of the disease.

A rapidly fatal disease of geese, spirochete septicemia, or spirillosis of geese, is caused by an organism which resembles the spirochete of Obermeier, and a similar infection has been noted in chickens in Brazil and in cattle in the Transvaal.

MALTA FEVER.

Malta, Mediterranean or undulant fever was discovered in the Island of Malta, is seen among British troops at Gibraltar, and cases have been discovered in the Carribean Sea, Porto Rico, in Hongkong and in Manila. It is said to be extending. The disease usually runs a long course, which is somewhat typhoidal in character, and there may be one or more relapses. The spleen is enlarged, but the intestines are not involved.

Bacillus melitensis, discovered by Bruce (1887) in the spleen of patients who had died of the disease, is a minute organism, slightly oval in shape and non-motile. It has not been found in the blood.

The bacillus is found in pure cultures in the spleen, which is greatly enlarged. Its growth in culture media is very slow.

It is thought that infected water may be one means of transmission of the disease. Laboratory infections have occurred through small wounds. The disease is not transmitted from person to person.

Up to the present time the monkey is the only animal known to be susceptible to artificial infection, although the organism may have a low degree of virulence for rabbits and guineapigs (Durham).

One attack confers immunity, which may disappear, however, after some time (Hughes).

Agglutinins, having a value of from 1-300 to 1-500, develop fairly early in the course of the infection and the agglutination test has been used successfuly in diagnosis.

An immune serum which was prepared by Wright is said to influence favorably the course of the disease.

Clinical Reports

QUININ AND IRON IN PNEUMONIA.

CHARLES F. NIEDER, M.D.

GENEVA, N. Y.

The results obtained by Dr. Galbraith,[1] of Sonora, Mex., in the treatment of pneumonia by the use of large doses of quinin sulphate and of the tincture of the chlorid of iron, as shown by the effect on the temperature, pulse and circulation, seemed to be of even greater importance than the fact that he had treated fifty consecutive cases without a death. Since reading Dr. Galbraith's last article I have treated six patients with lobar pneumonia in like manner, with very satisfactory results in every case.

Case 1.—J. H., aged 46, laborer, was taken ill March 8, 1905. He complained of severe headache and pain in the right side of the chest.

Examination.—Temperature, 102; pulse, 96; respiration, 28. Percussion of chest was negative. Breath sounds were suppressed on the right side. On March 9, at 10 a. m., temperature was 104.6; pulse, 120; respiration, 36. Percussion showed congestion of the lower lobe of the right lung. Pain in side was very severe. Expectoration was bloody.

Diagnosis.—Pneumonia.

Treatment.—Forty grains of quinin were administered, and two hours later fifteen grains were given, followed by ten drops of the tincture of the chlorid of iron every two hours.

March 10: At 9 a. m., temperature was 100; pulse, 94; respiration, 32. There was consolidation of the lower lobe of the right lung.

March 11: At 10 a. m., temperature was 101; pulse, 96; respiration, 34.

March 12: At 9 a. m., temperature was 101; pulse, 94; respiration, 35.

March 13: At 10 a. m., temperature was 104.5; pulse, 115; respiration, 54. There was consolidation of the whole of the right lung and of the lower lobe of the left lung. The patient was very drowsy. Forty grains of quinin were given at 12 m., thirty grains at 2 p. m., and thirty grains at 8 p. m.

March 15: At 8 a. m., temperature was 101; pulse, 92; respiration, 42.

March 16: At 9 a. m., temperature was 98.6; pulse, 88; respiration, 40.

March 17: At 10 a. m., temperature was 99; pulse, 82; respiration, 28.

Case 2.—D. Q., aged 38, moulder, was taken ill Sept. 6, 1905. He sat near an open window while perspiring freely on September 4. He had a very severe attack of pneumonia nine years ago.

Examination.—On September 6, at 8 a. m., temperature was 104; pulse, 125; respiration, 32. Percussion was negative. Breath sounds were suppressed over the lower lobe of the right side. The patient complained of severe pain in the right side.

Diagnosis.—Pneumonia, involving the lower lobe of the right lung.

Treatment.—Forty grains of quinin were administered at 8 a. m. and thirty grains at 4 p. m., followed by ten drops of the tincture of chlorid of iron every three hours.

September 7: At 9 a. m., temperature was 99.4; pulse, 86; respiration, 32. There was consolidation of the lower lobe of the right lung and severe pain in the right side.

September 8: At 9 a. m., temperature was 101.6; pulse, 92; respiration, 36. Twenty-five grains of quinin were given.

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[1] The Journal, July 9, 1904, and Jan. 28, 1905.

September 9: At 9 a. m., temperature was 100; pulse, 78; respiration, 34.

September 10: At 10 a. m., temperature was 98.8; pulse, 75; respiration, 28.

September 11: At 10 a. m., temperature was 99.5; pulse, 76.

September 12: At 10 a. m., temperature was 98.4; pulse, 72.

Case 3.—A. P., aged 41, molder, had had a cold for one week. He was taken ill Sept. 12, 1905.

Examination.—On September 12, at 8 p. m., temperature was 104; pulse, 120; respiration, 35. His breathing was labored. There was no pain. Auscultation showed breath sounds suppressed over the lower lobe of the right lung, and percussion indicated congestion of the same area. The patient was very drowsy.

Diagnosis.—Pneumonia.

Treatment.—Thirty grains of quinin were administered at 8 p. m. and thirty-five grains at midnight, followed by ten drops of the tincture of chlorid of iron every three hours.

September 13: At 8 a. m., temperature was 99.8; pulse, 88; respiration, 32. There was severe pain in the right side, and the man was raising bloody sputum.

September 14: At 9 a. m., temperature was 100.4; pulse, 88; respiration, 34. There was consolidation of the lower lobe of the right lung.

September 15: At 9 a. m., temperature was 101.5; pulse, 90: respiration, 30.

September 16: At 10 a. m., temperature was 101.8; pulse, 90; respiration, 32. Twenty grains of quinin were given.

September 17: At 9 a. m., temperature was 100.6; pulse, 86.

September 18: At 9 a. m., temperature was 99; pulse, 78.

September 19: At 9 a. m., temperature was 100; pulse, 80.

September 20: At 9 a. m., temperature was 98.4; pulse, 74.

Remarks.—The results obtained in my other cases have been just as satisfactory as in these three cases.

With the exception of Case 1, at the time of the extension of the pneumonia to the other lung, none of the patients had a temperature exceeding 102 nor a pulse rate exceeding 96 after beginning this treatment.

What I wish to emphasize most is the effect of this treatment on the circulation. Instead of the high tension pulse which is usually present in pneumonia, the pulse was of nearly normal tension and of good volume. When there was cyanosis it was promptly relieved.

I trust that others will publish their results with Dr. Galbraith's treatment, so that we shall be able to arrive at a correct estimate of its value.

My experience is too limited to form satisfactory conclusions. Still, I am led to hope that the general use of this treatment will cause a great reduction in the mortality from pneumonia.

REPORT OF A CESAREAN SECTION.

JAMES W. ROWE, M.D.
Adjunct Professor of Obstetrics, University of Cincinnati.
CINCINNATI.

Previous History.—The patient was 26 years of age and weighed 96 pounds before the uterine contents were removed. She asserted that, when 2 years old, she was very sick with a fever, after recovering from which she did not walk for over a year. She was perfectly normal at birth and grew until 5 years old; since then she has grown broader, but very little taller.

Examination.—On examination the patient was found to be 41 inches in height. The head, face and neck were normal and the intelligence above the average. The trunk was small, but not especially deformed. From the spine of the seventh cervical vertebra to the tip of the coccyx measured 20½ inches. The extremities were markedly short, stumpy and deformed. The arm from the shoulder to the tip of the middle finger measured 14 inches. The legs were approximately 16 inches long.

Pelvis: The pelvic measurements were as follows: Between spines, 19.7 cm.; between crests, 21.8 cm.; between trochanters, 25.2 cm.; external conjugate, 14.7 cm. The true conjugate of the brim was estimated to be 6.5 cm.

History of Labor.—The patient last menstruated Nov. 23, 1904. On Sept. 11, 1905, labor began. I first saw the case on September 12 after she had been in labor twenty-four hours. At this time the os was as large as a quarter and the presenting part lay very high. Position and presentation were normal and the child was alive.

Operation.—The section was made following the usual technic. The uterine incision was made vertically through the anterior wall of the organ and, unfortunately, went through the placenta, so that it was necessary to work rapidly. After removal of its contents the uterus was closed with heavy catgut sutures one-third of an inch apart and extending through the entire thickness of the uterine wall, except the mucosa. Between these more superficial and finer sutures were placed to approximate the edges of the wound. A piece of gauze, the end of which extended through the os into the vagina, was left in the uterus. The abdominal wound was closed with three tiers of sutures. The gauze was removed *per vaginam* after twenty-four hours.

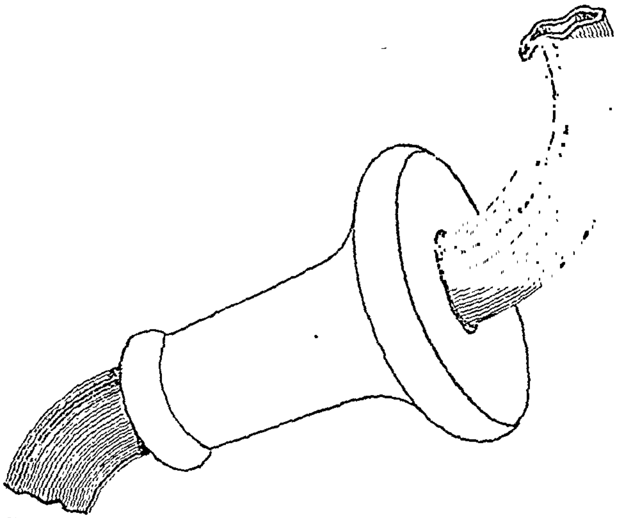
Result.—The patient recovered most uneventfully. Lactation began promptly and the baby flourished from the start. It weighed seven pounds and ten ounces. Mother and child were discharged after twenty-five days.

New Appliance

COMBINED MOUTH GAG AND STOMACH TUBE PROTECTER.

LAURENCE M. HYNSON, M.D.
WASHINGTON, D. C.

While resident physician at the Emergency Hospital in this city several months ago and having occasion to use the stomach tube in a great number of emergency cases brought into the hospital suffering from the effects of poisonous substances (taken for suicidal intent and otherwise), acute alcoholism, indigestion, etc., and finding in many of these cases the use of the mouth gag unsatisfactory, inasmuch as it was with the greatest difficulty that one could retain the gag in position with obstreperous patients, I was led to devise a simple instrument or bobbin which has proved to be very effective and which has the double feature of being mouth gag and stomach tube protecter combined. I made and used a mouthpiece of hard wood, as shown in the accompanying diagram, for the first time Sept. 6, 1904, and on subsequent occasions to great advantage.



It causes no laceration of lips, gums or tongue, and when once in position can not easily be removed by the movements of the patient's head or body. With one hand the operator holds both tube and mouthpiece in position, giving freedom of the other hand for the funnel end of the stomach tube. The gag has now been in use for several months at the Emergency Hospital of this city.

Those used so far have been made of hard wood, principally ash and hickory. The illustration is full size.

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BIOGRAPHICAL CARD INDEX AND DIRECTORY.

Since the American Medical Association began the work of accumulating personal information from the members of the medical profession for the biographical card index and the American Medical Directory, many inquiries regarding these new lines of activity have been received. Physicians all over the country have asked, "*What is the biographical card index and what is its purpose? How will the American Medical Directory differ from other medical directories?*" The following is presented to answer these and other questions relating to the subject and to obviate the necessity of replying to each individual inquiry.

In order to understand the object of this work, it is necessary to examine carefully the present condition of the medical profession from a social and economic standpoint. The last century, and particularly the last twenty-five years, have witnessed a remarkable progress in medicine and in the allied sciences. This progress will unquestionably continue, and the army of observers and investigators now at work in every branch of medical science can safely be trusted with the technical side of a physician's work. But all thoughtful members of the profession admit that there are many practical questions relating to the training, the work and the life of the individual physician, as well as to the community in which he lives, that require careful study and consideration, as well as intelligent and conservative regulation. The improvement of the preliminary training of prospective medical students, of medical schools and of medical courses; higher standards for licensure by state authorities; reciprocity and mutual co-operation between state boards; protection of the ignorant and the sick from the quack, the faker and the charlatan; improvement of the social and financial conditions of the physician; stimulation of the desire to improve his own condition and to increase his knowledge and usefulness —all these much-needed lines of agitation and reform are blocked in the beginning by a lack of knowledge regarding the individual members of the medical profession.

As already stated, detailed information in all technical lines has increased a hundred-fold in the last half century. Along practical and sociologic lines, there is little more known than there was fifty years ago. No one knows how many individuals are at present engaged in the practice of medicine in the United States. Estimates vary from 110,000 to 140,000. Of this indefinite number, no one knows how many are properly licensed by the licensing body of the state in which they live. In many states, owing to the condition of the records, the state board itself can not tell whether a certain individual has *a right to practice medicine or not.* Information obtained by one state board at considerable expense and trouble is not utilized by others. Knowledge possessed by one society is not shared with other societies. Statements regarding college and year of graduation, as well as regarding state licensure, are in many cases most difficult of verification. If one desires data regarding a physician, there is no central bureau that can furnish it to him, no general clearing-house for information. Licensing bodies are continually met by the fact that they are unable to obtain reliable information whereby they may verify statements made by an applicant. There is not in existence to-day a list of the physicians of the United States whose legal qualifications to practice medicine have been verified. Out of the *fifty-four state and territorial licensing bodies,* only twenty-one have ever published a list of physicians legally qualified to practice medicine within their jurisdiction.

Information regarding members of the profession is difficult to obtain when desired for identifying, locating or tracing an individual physician for personal notices, biographical sketches, obituary notices, and all other purposes for which such information is desired. What has long been needed is an accurate compilation of data, made up of information obtained from official sources, such information then to be carefully edited and classified and kept corrected up to date, for the use and information of licensing bodies, and for any responsible person desiring information for legitimate purposes.

While the necessity for such classified information has been long recognized, until recently, conditions have not been favorable for its establishment and maintenance. Now with organization more or less completed, such is possible. In his annual report at the Portland session, the General Secretary of the American Medical Association said:

> It has long been recognized that a permanent biographical card index of American physicians, giving data in regard to preliminary education, medical education, previous locations, etc., would be of great value to the Association and to the profession. Such an index would be of value in tracing a physician through various localities, making up matter for directories and in compiling statistics in regard to the profession. This work has been begun and is now being carried on along two different lines, namely, first, the accumulation and indexing of biographical data in regard to the members of the profession now engaged in active practice; second, the accumulation of similar data in regard to graduates of the current year and of recent licentiates of state boards of health. This has been carried on through the assistance and co-operation of medical colleges and secretaries of state licensing boards. The amount of information on hand is considerable and is steadily increasing.

This was approved by the Committee on Reports of Officers and adopted by the House of Delegates, with instructions to the General Secretary to continue the work of collecting and classifying biographical information.

In accordance with this action, a biographical card index of the medical profession has been established, and it is hoped that very soon this index will contain a card for every physician in the United States. On the card will be recorded name, place and date of birth, preliminary education, medical college and year of graduation, state license and date, medical societies, college and life insurance positions, school of practice, and specialty, if any. In connection with this fundamental information, provisions are made for recording removals, positions held and other matters that may occur in the life of the individual that are of sufficient medical interest to note. Such information is pouring into the general offices of the Association from state and county societies, from licensing bodies, from newspaper clippings, the latter alone averaging over one hundred and fifty a day. Through the co-operation of medical colleges and state boards, certified lists of graduates and licentiates, together with most of the personal information requested, have been obtained and are now being properly classified. There is now in possession of the Association a fairly complete list of graduates of American medical colleges from 1860 to 1901. This list has been supplemented and brought up to date through the co-operation of registrars and secretaries of medical colleges. Copies of the official records of more than three-fourths of the licensing bodies have been secured. The remaining records are now being copied and will soon be completed. Blanks for reports both of colleges and of licensing boards have been prepared.

Each year a supplementary list of recently graduated and licensed physicians will be procured and added to the general index. There will thus be formed a list of all medical graduates, as well as of all legally qualified practitioners, made up from official records, and carefully corrected and revised each year. Information lacking regarding individuals will be constantly added. Thus it will be seen that the information asked for is primarily intended for this index. As a reliable and official list of legally qualified practitioners, it will be of great value and will undoubtedly aid in securing general reciprocity among licensing bodies.

The second reason for desiring this information is for use in compiling a reliable and accurate directory. The directory however, is only incidental to the other work. From the index will be drawn information, either personal or official, for compiling, revising and correcting the directory, both the one now in preparation, as well as subsequent editions.

The American Medical Directory will differ from directories heretofore issued in three particulars: First, it will be a directory of the American medical profession published and owned by physicians themselves. Second, information regarding college and year of graduation and date of licensure will be verified from official sources. Third, it will furnish the same information regarding each physician, whether he be a subscriber to the directory or not. No paid-for information will be included. It will also combine in one volume the purpose of a general medical directory, as well as a medical society blue book, since the names of all members in good standing of the constituent state associations and their component branches will appear in capital letters, as a distinctive mark of such membership. Information contained in the directory regarding each physician will include name in full, year of birth, college and year of graduation, office address and office hours.

The assistance and co-operation of all physicians, and especially all members of the organized profession, is earnestly requested in carrying on and developing this work. The greatest service that any physician can render at the present time is to furnish, promptly and accurately, information regarding himself. For the purpose of obtaining this information a blank has appeared in successive numbers of The Journal for the last six weeks. About 20,000 of these have been filled out and sent in.

A number of physicians have written saying: "You will find full information regarding me in the ——— Directory." As practically all directories are copyrighted works, it will be readily seen that such information is not available for the purposes desired. Other physicians have replied, saying, "You will find my complete record in the Transactions of the ——— Medical Society for the year ——." A moment's reflection will show the difficulty in tracing up the personal record in this way. The time required for a physician to fill out and return these blanks is infinitesimal; the time required for the directory office force to trace each individual is great. If each reader of The Journal will furnish at once, without further solicitation, the personal information regarding himself, the work of accumulating the data will be greatly simplified. On advertising page 32 of this issue will be found the information blank desired. All readers of The Journal who have not already done so, are urged to furnish this information at once.

THE VALUE OF SINGLE CLINICAL SYMPTOMS IN THE DIAGNOSIS OF TYPHOID FEVER.

In no common disease more than in typhoid fever does the diagnosis depend on the correlation of single symptoms, and no common disease is more often incorrectly diagnosed. If the Spanish War had shown nothing else of medical interest, the information it gave us regarding the difficulty of diagnosing this disease would have been of inestimable value. Those who looked over the admirable report of Reed, Shakespeare and Vaughan must have been struck with the fact that more mistakes in diagnosis were made in connection with typhoid than with any other common condition. In civil practice, too, a similar condition has prevailed and still prevails. Too many practitioners still fail to realize that a fever that does not yield with reasonable promptness to quinin is not malaria, and that in many districts the only continued fever is typhoid. It is but a few years since Osler, in an address before a New York audience, called attention to the frequency with which malaria was given as a cause of death in that state, and with gentle and good-natured sarcasm referred to typhoid fever as "New York malaria." On the other hand, in many cases typhoid is made the scapegoat, and any obscure condition is diagnosed as typhoid fever.

Superstition, though dormant or appearing in aberrant forms, still enters into the constituent parts of humanity. In medicine, as elsewhere, superstitions die hard, and the superstition of the pathognomonic sign dies hardest of all. Who has not met the practitioner who, in diagnosing a fever case, says: "No, this can not be a typhoid-fever case, for the patient has not a typhoid tongue." If it is not the tongue it is the pea-soup discharges or delirium or a typical fever. If we are to rely on single symptoms and signs, or on groups of prominent symptoms and signs, what are the important ones in this disease? Are the more modern methods, when available, of striking value? These questions have been considered and answered in a recent paper of Treupel.[1] This author's analysis of his carefully studied cases shows that some of the signs and symptoms supposed to be most characteristic appear in a remarkably small percentage of cases, and they also indicate the great value of certain of the more recent methods of diagnosis.

There are certain facts of essential importance which should always be considered in reaching a conclusion as to whether a given patient has or has not typhoid fever. The history of the prodromal symptoms, either general or referred to special organs, the temperature, the pulse, and especially its relation to the degree of fever, the involvement of the respiratory organs, the condition of the tongue and of the digestive tract in general, the presence or absence of an enlarged spleen, the skin eruption, the Widal reaction and the presence or absence of typhoid bacilli from the blood. The two last-mentioned signs are relatively new, and while the Widal reaction is now generally used, blood cultures have not yet come into general favor. Treupel's analysis deals with all of these factors, and gives the relative value of each in figures. The results are interesting. The typhoid tongue, for instance, was present in only 16 per cent. of his cases, and a typical temperature curve in less than 50 per cent. Pea-soup stools were the exception and constipation the rule. Bronchitis occurred in less than 50 per cent. of the cases. Far outclassing every other sign as regards frequency of occurrence were the two new diagnostic measures, the Widal reaction (90.6 per cent.), and the presence of typhoid bacilli in the blood (92.8 per cent.). Of the signs which are appreciable to the senses, and do not need the aid of laboratory methods to bring them out, the most important are the enlarged spleen, the relatively low pulse rate, the rose spots and abdominal tenderness or meteorism.

One is tempted to ask whether the signs and symptoms of a given disease may not vary from generation to generation; whether we do not expect to find certain symptoms and signs because professional tradition has taught us to expect them. There is no doubt as to the clinical acuity of our professional forbears; so far as the unaided senses are concerned, in all likelihood they were much better observers than we are. There are good reasons on theoretical grounds why infectious diseases should become modified in the course of time, and not a little practical proof that this has actually occurred in some cases. In all probability it has taken place to some extent in typhoid fever, partly, no doubt, as the result of changes in treatment. Even the text-books suggest it. It is to be hoped that the fact will soon be more widely appreciated.

FEDERAL PROTECTION OF THE PUBLIC HEALTH.

One of the most important and most significant of the favorable results of the late epidemic of yellow fever has been the widespread agitation in the southern states, having as its object the creation of a public sentiment in favor of transferring to the Federal Government all matters of national and interstate quarantine. This is all the more notable because heretofore it has been chiefly the southern adhesion to a strict construction of the rights of the state that has prevented the development of a national department of health. In order to show the character of this change in sentiment, we reproduce in this issue[1] a few excerpts from southern press editorials, together with expressions from prominent state governors. Those interested in public health development will find these very significant.

Clearly, the present is the opportune time for asking Congress to create a department of health, to which shall be assigned certain duties in national and interstate quarantine, together with various incidental tasks, such as collecting general and accurate vital statistics. It would not seem to require any stretching of federal function to assign to this new department the sanitary policing of all the navigable waters of the nation, which, by the United States Constitution, are declared to be a part of the national domain, and are placed under the authority of Congress. By a persistent national application of this new function, it is reasonable to think that much improvement would be noted in the mortality from diseases whose infection is waterborne. To this new department would logically fall the execution of the provisions of the pure food and drug law, which will sooner or later be placed on the statute books. Other and important functions will suggest themselves, such as the problems of immigration, and of sanitation in Panama, Porto Rico, Alaska and the Philippines. In such a department all the medical activities of the government could be centralized and harmonized.

It is unfortunate that up to the present time no proposed law for the establishment of a national department of health has been satisfactory to all students of the subject. Certainly, however, this does not imply that a comprehensive and safe measure can not be drawn. Beyond doubt there never has been a time in the history of the country when the conditions were so favorable for the friendly and interested consideration of such a measure by Congress.

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[1] Muench. med. Wochft., 1905, vol. lii, p. 1870.

[1] See page 1593.

In addition to others mentioned as willing to permit enlargement of the functions of the General Government in the direction of public health duties, it must be borne in mind as highly significant that Governor Cox of Tennessee felt so much interest in the movement that he called a conference of governors, health officials and other citizens of the southern states at Chattanooga, November 9 to 11. At this conference Congressman John Sharp Williams, Democratic leader in the United States House of Representatives, was made chairman of the committee on quarantine, and this committee brought in a report recommending federal control of foreign and maritime quarantines and control of interstate quarantine by the individual states in co-operation with the Federal Government. This report having been adopted, the question is certainly before the country in active form.

THE POWER AND INFLUENCE OF THE PROPRIETARY ASSOCIATION OF AMERICA.

During the last two or three weeks the newspapers of the country have been publishing from paragraphs to columns of matter denouncing the "unjust attacks on a legitimate (?) business" and abusing *Collier's Weekly* for publishing "sensational articles which are calculated to mislead the public." We have never known before what a noble, self-sacrificing business that of the nostrum manufacturer is, nor have we realized how necessary to human life these nostrums are. Sophistry, half-truths and plausible arguments are so intermixed that, to the ordinary individual, it would seem that the nostrum business is not only legitimate and honorable, but absolutely necessary for the welfare of the race. Except in rare instances this matter has not appeared in the metropolitan and leading dailies, for evident reasons, but the smaller newspapers and those that are less independent seem to be the ones that are compelled to defend the "Great American Fraud." The country newspapers which use the "patent-insides" are relieved of any responsibility, for the "defense" is in that part of the paper which they buy already printed.

While these articles have appeared in the public press in all parts of the country practically simultaneously, there is such a sameness about the style, the arguments used are so similar, and in general character so uniform, that one at once concludes that they must have a common origin. This conclusion would be reached even if there were no other evidence; but the letter we reproduced last week in a comment on "A Newspaper Free from Nostrum Ads.," written by the chairman of the press committee of the Proprietary Association, clearly proves the source. By the way, the "communication" which was sent to the newspapers with the letter referred to was the one from Mr. Bok, which appeared in THE JOURNAL of the American Medical Association,[1] in which he urged physicians to take up the fight against patent medicines. The object of the press committee of the American Proprietary Association evidently was to convey the idea that physicians are instigating the propaganda against "patent" medicine, and the dear people are being told that this is a fact and that the doctors oppose "patent" medicines for selfish reasons. Incidentally, the medical profession, the American Medical Association and THE JOURNAL of the American Medical Association are sadly abused.

What is this organization that has such a power over the newspapers of the country that it can compel them to speak or to be silent? Does this power lie in its numerical strength, in its wealth, or in the social influence of its members? To enlighten our readers, and, indirectly, the public, we print in this issue[2] a complete list of the members of this Proprietary Association of America, taken from their own transactions recently issued.

A glance at this list will give one an idea of the enormous wealth represented, so enormous that it is no exaggeration to say that it is one of the most powerful organizations in the country, from a financial point of view, and that it is not hard to believe that its members pay to the press of the country at least forty million dollars annually, as stated by one of them. Those who are interested in the nostrum question—whether as it relates to the so-called "patent" medicines advertised directly to the public or to those which are exploited to physicians—will find it worth while to give this list a careful study. In the first place, it will be found that there are a few firms in the list which are engaged in an honorable and commendable business. There may be a dozen of these, all told.

Further, it may be noted that scattered through the list are names that are familiar to readers of the advertising pages of medical journals—another evidence of the inseparableness of "patents" and "proprietaries." Another very important fact would be evident if we had space to give the personnel of the firms; a large number of those who under one company are "patent medicine men," under another are, in a very dignified way, exploiting "proprietary" medicines to physicians.

These various firms have banded together, for what? To protect the interests of what Samuel Hopkins Adams calls "The Great American Fraud"; to protect the interests of a business that is both infamous and despicable; a business in which few men will, without blushing, acknowledge that they are engaged; a business that thrives on misrepresentation and fraud, that fattens on the gullibility and credulity of the ignorant, and that prospers by deceiving the sick and afflicted.

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[1] THE JOURNAL A. M. A., May 20, 1905, p. 1628.

[2] See page 1589.

This language may seem harsh. We acknowledge that it is. But is it too harsh when all the facts are known regarding the business and the methods of at least a large majority of the firms which are listed as members of the Proprietary Association of America?

LIQUOZONE.

Collier's for the current week contains Samuel Hopkins Adams' contribution on that wonderful preparation, "Liquozone," a nostrum that has been more widely exploited, and with more extravagant claims, in the short time that it has been before the public, than any other patent medicine, so far as we are aware. The methods adopted by its promoters have been so effective that the backers and endorsers of the preparation evidently thought they had struck a gold mine, figuratively speaking. It is a pity that Mr. Adams did not "name names" when he was speaking of the promoters and stockholders who "are prominent socially and forward in civic activities," for then it would have struck at the root of the matter as far as this particular company is concerned. One of the directors, we have been informed, has recently been elected to a high office in one of the leading social clubs of Chicago, and another prominent figure in the company is a leader in a movement for bettering the political conditions in Chicago. We understand, however, that there is more to come in regard to liquozone than is to appear in *Collier's Weekly*, and the probability is that the whole concern will be so shown up that those connected with it will wish that they had never lent themselves or their "influence" to such a business.

THE RETIREMENT OF DR. BIDDLE.

The announcement is made in the last number of the *Journal of the Michigan State Medical Society*, of the resignation of Dr. A. P. Biddle, secretary of that society, and editor of the journal. Dr. Biddle resigns owing to increased demands of work along other lines. The Michigan State Medical Society has accepted the resignation to take effect January 1, and voices its regret at Dr. Biddle's resignation, as well as its appreciation for his faithful and energetic services. This sentiment will be echoed by all officers and members of the American Medical Association who have come in contact with Dr. Biddle during the years of his secretaryship. He has always performed the arduous duties of his position cheerfully, promptly and effectively during the time that he has occupied the secretary's office. He has seen the state medical society grow to its present proportions and the *Journal of the Michigan State Medical Society* develop into one of the best state journals in the country. It is to be hoped that Dr. Biddle's retirement from the secretaryship will not mean that he will cease to take an interest in medical organization or to work as earnestly as heretofore, for the good of his state association and of the American Medical Association.

Active Congestion of Lungs.—Aconite is especially indicated in inflammatory states of the respiratory organs—one-half to one drop every half-hour until an impression is made on the fever movement, then every hour or two.—Bartholow.

Medical News

CALIFORNIA.

Sanitarium Opened.—The Loma Linda Sanitarium, near Redlands, a well-equipped branch of the Battle Creek Sanitarium, was opened to the public October 1.

Hospital Opened.—The new hospital of the Santa Fe System, Los Angeles, a three-story building in mission style, erected at a cost of $80,000, was formally opened November 1.

October in the Hospitals.—During October, 1,747 patients were treated at the five emergency hospitals in San Francisco. In the previous month 1,643 cases were treated, while in October, 1904, there were but 1,300 patients.

Hospital Association Meeting.—At the annual meeting of the Santa Ana Hospital Association, Drs. Charles D. Ball, Frances M. Bruner, John L. Dryer, Howard S. Gordon, James R. Medlock, Willela Howe-Waffle and John Wehrly were elected directors, and the directors thereon organized by electing Dr. Dryer, president; Dr. Bruner, vice-president; Dr. Ball, secretary, and Dr. Gordon, treasurer.

Personal.—Dr. Eleanora S. Yelland, Los Gatos, is visiting in Connecticut.——Dr. Carl R. Krone, Oakland, has resigned as superintendent of the East Bay Sanatorium and will resume private practice.——Dr. Ellis Harbert, Stockton, has been appointed division surgeon for the Santa Fe System.——Dr. Harry McNulty, San Francisco, formerly surgeon of the steamship *Sonoma*, has entirely recovered from his recent serious operation.

Crusade Against Patent Medicines.—The Board of Health of Los Angeles is reported to have begun a crusade against patent medicines which contain either poisons or alcohol. An analysis of all the more prominent patent medicines is being made, and the report will be published. There is a California law which has never been enforced which requires sellers of proprietary medicines to label the preparation with the name of any poison it may contain. Failure so to label the bottles is made a misdemeanor and a severe penalty is provided. Dealers in nostrums will be given a reasonable time in which to comply with the requirements of the law in this respect. and failure to do so will be followed by criminal prosecution. It is said that the board of health has secured from the city attorney's office the announcement that there is ample authority under the law for this crusade.

IDAHO.

New Regimental Surgeon.—Governor Gooding has commissioned Lieutenant-Governor Burpee L. Steves, Weiser, as major surgeon of the Second Infantry, Idaho National Guard, vice Major Castle, resigned.

New Hospital Opened.—The new hospital at Idaho Soldiers' Home, Boise, erected at a cost of $10,000, was formally accepted and occupied November 2. The 7 patients in the old building were removed to their new quarters.

Personal.—Dr. Robert L. Nourse, Hailey, is about to move to Boise, but before doing so he will go to Europe to take postgraduate work in the treatment of the eye, ear, nose and throat.——Dr. and Mrs. G. C. Kilgour, Roosevelt, have gone to Chicago.

ILLINOIS.

Cornerstone Laid.—The cornerstone of the new St. Vincent's Hospital, Taylorville, was laid November 8 with impressive ceremony.

Silver Wedding.—Dr. and Mrs. J. Leaming Wiggins, East St. Louis, celebrated the twenty-fifth anniversary of their marriage October 22.

Hospital Changes.—Drs. J. C. and J. E. Weld, Milford, have been appointed to the staff of the Illinois Eastern Hospital for the Insane.

Hospital at Mattoon.—The trustees of the Memorial Methodist Hospital Association of Mattoon have recently purchased a 25-room residence and will so remodel it that it will accommodate about 20 patients.

Pure Food Crusade.—It is reported that the Illinois Consumers' League is to co-operate with the General Federation of Women's Clubs in the crusade for pure food. A committee has been appointed to call the attention of the women of the state to the adulteration of foodstuffs.

Hospital Staff Elected.—The medical staff of Blessing Hospital, Quincy, met October 30 and elected Dr. Kirk Shawgo physician-in-charge; Dr. William S. Knapheide, surgeon-in-charge; Dr. John H. Rice, gynecologist-in-charge; Dr. Melinda C. K. Germann, obstetrician; Dr. Clarence A. Wells, anesthetist; Dr. Frederic M. Pendleton, oculist and aurist, and Dr. George E. Rosenthal, pathologist.

Southern Medical Association.—The Southern Illinois Medical Association met in Mount Vernon November 1 and 2 and elected the following officers: President, Dr. J. Leaming Wiggins, East St. Louis; vice-presidents, Drs. Charles C. Grizzell, De Soto, and James W. Hamilton, Mount Vernon; secretary, Dr. Edgar E. Fyke, Centralia; associate secretary, Dr. Charles W. Lillie, East St. Louis, and treasurer, Dr. Alexis T. Telford, Olney. The next meeting will be held in Shawneetown.

Chicago.

Personal.—Dr. Samuel J. Walker has been seriously ill from septic infection due to a postmortem wound.

Senn Club.—The Nicholas Senn Club has been incorporated in Chicago for scientific research by Drs. Byron Robinson, Orville W. Mackellar and Arthur McNeal.

Hospital Borrows Money.—The Sisters of the Holy Family of Nazareth have obtained a loan of $50,000 for ten years, secured on the site of the Hospital of St. Mary of Nazareth and subject to a prior incumbrance of $150,000.

Refuses to Stop Examinations.—Master in Chancery Mason on November 6 denied the motion for an injunction to restrain the civil service commission of Cook County from continuing the examination for positions on the staff of the County Hospital.

Diphtheria.—During the week ended November 11, 17 fewer cases of diphtheria were reported than during the previous week, and although there was an increase of more than 31 per cent. in the number of requests for bacterial examinations of suspected cases of the disease, there was a decrease of more than 27 per cent. in the positive findings.

Deaths of the Week.—The total deaths for the week ended November 11 were 469, 29 less than for the preceding week and 56 more than for the corresponding week of 1904. The respective annual death rates per 1,000 were 12.28, 13.04 and 11.17. The chief causes of death were: Pneumonia, 63; consumption, 49; nephritis, 45; heart diseases, 40; violence, including suicide, 35, and cancer and acute intestinal diseases, each 28.

Alkaloidal Clinic Burned Out.—The three-story brick building occupied in part by the *Alkaloidal Clinic*, at Ravenswood, with the presses and publishing equipment, was completely destroyed by fire November 2, at a loss of $200,000. The large wooden building, closely adjoining, containing the offices and stock of the Abbott Alkaloidal Company, was saved. Dr. Abbott and his associates have at once taken up plans for a new start, proposing to issue a clinical journal of a broader scope than formerly.

INDIANA.

Gift to Hospital.—James M. Laboyteaux, a farmer living near Muncie, has contributed $1,000 toward the erection of a county hospital and, if necessary, will duplicate the gift.

New Medical Building.—Ground has been broken for a new building for the medical department of Valparaiso University, to cost about $50,000. The first winter term opened November 14.

In Guardian's Charge.—Dr. John Williams, Bowling Green, 96 years of age, who has practiced medicine for nearly seventy years in the state, was placed under the charge of a guardian November 6.

Schools Reopened.—The city schools and public library of Columbia City, which have been closed on account of a diphtheria epidemic, will reopen November 6.——The Potomac schools, which have been closed for a week on account of scarlet fever, were reopened November 4.

Magazines Consolidated.—The *Central States Medical Magazine*, Anderson, and the *Medical and Surgical Monitor*, Indianapolis, have been merged as the *Central States Medical Monitor*, to be published in Indianapolis. Dr. Samuel E. Earp will be the editor, and Dr. Samuel C. Norris will edit the eye, ear, nose and throat department.

Personal.—Dr. M. Hassenmiller, West Baden, has gone to Europe. Dr. Chauncey W. Dowden, Bloomington, has taken his place as house physician at the West Baden Springs Hotel.——Dr. Charles R. Dancer, house physician at the Indiana School for Feeble-minded Youth, Fort Wayne, has resigned, to take effect November 1. Dr. Budd Van Sweringen has taken charge of the work at the institution until a successor is appointed.——Dr. John W. McGowan, Oakland City, who has been seriously ill with septicemia, is now believed to be convalescing.——Dr. Peter J. Pothuisje, Remington, has gone to Colorado.——Dr. Charles T. Bronaugh, Crawfordsville, who has been visiting in California, has returned.——Dr. Brose S. Horne, Marion, has moved to the Indian Territory.

IOWA.

Semi-Centennial.—The Fremont County Medical Society held a meeting November 1, at which a banquet was given in honor of Dr. Thomas G. Stephens, Sidney, who has just entered on his fiftieth year of medical practice.

Northwestern Physicians Meet.—At a meeting of the Northwestern Iowa Medical Association in Carroll October 26, Dr. Patrick J. Barry, Auburn, was elected president; Dr. A. L. Brooks, Audubon, vice-president; Dr. Giles C. Moorehead, Ida Grove, secretary, and Dr. Daniel J. Townsend, Lohrville, treasurer. In the evening a banquet was tendered the members of the association and the invited guests by Dr. Arthur L. Wright.

Diphtheria.—A number of country schools in Polk County are closed on account of the prevalence of diphtheria.——The schools of Anken and Elm Grove have been closed in an endeavor to check the spread of diphtheria, which has been prevalent in these towns.——There are several cases of diphtheria in Cedar Rapids.——As many as 30 cases have been reported to the city physician of Des Moines in one day.——Dubuque has diphtheria in almost epidemic form.

Personal.—The State Board of Health has elected Dr. Henry Albert director of the State Board of Health Bacteriologic Laboratory, Iowa City.——Dr. Robert D. Wilkins, Atlantic, was thrown violently against a seat on a train en route to Chicago October 16, breaking three ribs.——Dr. Alanson M. Pond, Webster City, has gone to Europe.——Dr. Nathaniel La K. Slamberg, Kimballton, has been appointed surgeon at the Pine Ridge Indian Agency, South Dakota.——Dr. Herbert M. Decker, Davenport, has been appointed assistant state bacteriologist.

In the Courts.—Mrs. Stiles, Atlantic, arrested for peddling medicines without license, plead guilty, paid the costs of the case, amounting to $14.05, and took out the regular $100 license.——Dr. Charles McKinnis, Ollie, charged with issuing prescriptions for liquor, has been placed under bonds of $1,000.——Dr. James C. Smith, Woolstock, has been permanently enjoined from selling intoxicating liquor of any kind in violation of law in the town of Woolstock or in any other place within the eleventh judicial district. The costs and attorney's fees were taxed to the defendant.——"Dr." J. R. Baker, Odebolt, who plead guilty to using the mails to defraud by the sale of a medicine, has been sentenced to six months' imprisonment in the state penitentiary at Anamosa.——Dr. Palmer, Fort Dodge, has been adjudged an habitual user of drugs by Judge Richard and committed to the Cherokee State Hospital for two years.——In the malpractice suit brought against Dr. Pattison of Oelwein by Mrs. Ackerson, in which $10,000 damages were asked, the jury rendered a verdict of $100 for the plaintiff.

KENTUCKY.

Medicine Vendor Fined.—A patent medicine vendor was fined $50 at Georgetown for selling medicines without a state license.

Personal.—Drs. Palmer G. Keeney, Edward S. Wendt and Oscar A. Frickman have been elected district physicians for Newport.

Physician Stabbed.—Dr. Robert A. Irwine, Clay City, a well-known physician of Powell County, was stabbed several times by an ex-convict November 4 and is in a serious condition.

Diphtheria is prevalent in Hancock and the eastern part of Daviess County, and the schools at Panther Creek, Floral and several other places have been closed on account of the disease.

New Hospital Started.—Ground was broken November 5 for the foundation of the new Good Samaritan Hospital, Louisville, to be built by public subscription. Of the fund of $50,000 required to complete the building on the plans proposed, $26,500 is already in hand.

MISSISSIPPI.

Personal.—Dr. J. Hewlett, Meridian, quarantine inspector, has resigned.——Dr. William Neville has been appointed health officer of Macomb City.——Dr. Troy C. Sexton, Laurel, is reported to be critically ill.

Marine-Hospital Records Burn.—At a fire at Jackson October 2, the records of the United States Public Health and [illegible] Passed Assistant Surgeon [illegible] Surgeon Young [illegible]

[illegible] board of trustees of the [illegible] Jackson, has decided to ask [illegible] of $150,000 for the pur- [illegible] and making necessary improve- [illegible] now crowded to overflowing and the [illegible] a detached building erected for a hospi- [illegible] treatment of tuberculous patients.

To Examine into Insane Hospital Management.—Governor Vardaman has appointed a commission to examine into the management of the state insane hospitals located at Jackson and Meridian, consisting of Drs. Vardaman S. McLellan, Canton; Donald P. Street, Vicksburg; Ernest Spiva, Sturgis; Jefferson D. Smythe, Greenville; James W. Gray, Jr, Clarksdale; C. H. Ramsey, Collins, and John W. Young, Grenada.

MISSOURI.

Personal.—Dr. August Rhodes, Carthage, is critically ill at his home in that city.

Smallpox Epidemic.—Birchtree and the adjacent portion of *Shannon County* are suffering severely from a smallpox epidemic. There are reported to be at least 10 cases, and 4 deaths have occurred.

Opposes Club Doctors.—The Jackson County Medical Society adopted a resolution calling on all physicians engaged by lodges, societies and commercial institutions under contract prices, to resign at once under penalty of suspension from the society.

Diphtheria.—During the month of October 47 cases of diphtheria were reported in Kansas City, 14 less than on the corresponding day of 1904.——The board of health has ordered the fumigation of the Horace Mann and Linwood schools, in which districts the disease has been most prevalent.

Patent Medicine Advertisements.—The secretary of the St. Louis Medical Society has written to the city attorney of St. Louis, calling attention to a violation of city ordinances in the advertising of patent medicines. Some advertisements were characterized as obscene. The latter stated that the legislative committee of the society had appointed a committee consisting of Drs. George Homan, John Young Brown and Henry J. Scherck, to co-operate with the city attorney in enforcing a strict observation of the ordinances regarding advertising.

NEW MEXICO.

Hospital Society Organized.—The citizens of Albuquerque, claiming that eastern and western physicians are in the habit of sending dying tuberculous patients to that city, have established an associated charity hospital for those at present in the city, and will engage in a determined effort to put a stop to the practice of sending the hopelessly ill to New Mexico in the future.

Sanatorium to Open.—The New Mexico Cottage Sanatorium, Silver City, is nearly completed and will be open for patients November 25. The institution will be under the personal management of Dr. Earl S. Bullock. It consists of two main buildings and fifteen separate cottages, each of which accommodates one patient. The institution will be devoted exclusively to the care and treatment of cases of laryngeal and pulmonary tuberculosis.

NEW YORK.

Hospital Sunday.—The an[illegible] contribution obtained from city churches for the benefit [illegible] Ellis Hospital, Schenectady, October 22, amounted to $1,[illegible]

Columbia Alumni Organized [illegible] the Columbia Alumni Medical Association [illegible] organized, with Dr. Carlton R. Jewett, presid[illegible] Hurd, vice-president, and Dr. Edwin L. B[illegible] treasurer. [illegible] ed and

New Hospital Dedicated.—[illegible] equipped by Mr. and Mrs. Fred [illegible] cost of about $360,000, was form[illegible] October 18. The hospital will [illegible]

Me[illegible] Hospital Building.—Mrs. [illegible] Bartlett, daughters will [illegible] addition to the memo[illegible] father. The [illegible] and w[illegible] [illegible]es in heig[illegible]

Medi[illegible] —Dr. J[illegible] elected [illegible] J. LaT[illegible] Edwin [illegible] ry and

board of Thrall Hospital, at Middletown. The resignation of Dr. Edwin Fancher of the attending board was accepted and he was elected a member of the consulting board.

Northern New York Physicians.—The Medical Association of Northern New York met in Malone October 24 and elected the following officers: President, Dr. E. S. McClellan, Saranac Lake; vice-president, Dr. William C. Smith, Winthrop; secretary, Dr. Alfred G. Wilding, Malone, and treasurer, Dr. George H. Oliver, Malone. The association will meet in Malone next year.

Visitors to State Hospital.—The State Hospital, Buffalo, was visited October 23 by a royal commission of English visitors and philanthropists, who are making a tour of investigation of the institutions for the care and control of the feeble-minded in the United States. The commission was made up of W. B. Byrne, C.B., W. H. Dickinson, H. B. Donkin, F.R.C.P., J. D. Dunlop, F.R.C.P., and Mrs. Hume Pinsent.

Diphtheria.—Diphtheria is reported epidemic in Charlotte, and strict quarantine is being observed.——Public schools 59, 60, 64 and 65 of Brooklyn have been ordered closed pending official investigation of diphtheria which is prevalent in that section.——The public schools of Union Course have been ordered closed by the health department because the residents of that section would not allow the health inspectors to examine their children.

Central New York Physicians.—The Medical Association of Central New York held its thirty-eighth annual meeting in Buffalo October 24. Among the papers read was one on bony atrophy by Dr. Louis A. Weigel, Rochester, who as the result of his researches into the employment of *x*-rays, recently lost his right arm and three fingers of his left hand. The following officers were elected: President, Dr. David M. Totman, Syracuse; vice-presidents, Drs. William B. Jones, Rochester, and Lemuel L. Tozier, Batavia; secretary, Dr. Clarence A. Greenleaf, Rochester, and treasurer, Dr. William M. Brown, Rochester.

Personal.—Dr. Robert Frazer of the staff of the Riverside Accident Hospital, Buffalo, was operated on October 17 for appendicitis, and is reported as improving.——Dr. Max C. Breuer and family, Buffalo, returned from Europe October 21.——Dr. Fred M. Barney, Dolgeville, has received a government appointment in Cuba.——Dr. James E. O'Malley, Newburgh, who has been confined to his home for some time as the result of a broken patella, has resumed practice.——Dr. George H. Torney, first assistant physician at the State Hospital, Utica, has gone to California for a visit.——Dr. Douglas A. White, superintendent of the Hospital of the Good Shepherd, Syracuse, has resigned, to take effect December 1.——Bert E. Nelson has been appointed bacteriologist of the board of health of Binghamton.——Dr. Warren B. Stone has been appointed bacteriologist of Schenectady, vice Dr. Norman B. Saunders, removed from the city.——Dr. Henry H. Davidson, Northport, formerly coroner of Suffolk County, fell October 24 while walking across his office and fractured his hip.

New York City.

Home for Consumptives.—Under the direction of the *Tribune* Sunshine Society, Dr. James S. Ennis is to establish a Home for Consumptives in Florida.

New York Surgical Society.—At the annual meeting of this society November 8 the following officers were elected: President, Dr. George Woolsey; vice-president, Dr. Joseph A. Blake, and secretary and treasurer, Dr. John A. Hartwell.

Personal.—Dr. William J. Robinson, editor of the *Medico-Pharmaceutical Critic and Guide*, has returned from Europe after an absence of nine months.——Drs. Murray M. Rarick and W. E. Lippold have been appointed house surgeons and Dr. E. J. Dorn, ambulance surgeon, at the Williamsburg Hospital.

Signed False Death Certificate.—Dr. George E. Morgan, who in July last gave a certificate of the death of Mamie Jeanette Thompson, certifying that she had died from tumor, pleaded guilty November 8 to having falsely signed a death certificate and was sentenced to ten days' imprisonment in the Tombs and to a fine of $200.

Contagious Diseases.—There were reported to the sanitary [illegible]eau for the week ended November 4, 363 cases of tuber[illegible], with 150 deaths; 279 cases of diphtheria, with 22 [illegible] 169 cases of measles, with 5 deaths; 77 cases of ty[illegible]ver, with 11 deaths; 79 cases of scarlet fever, with 6 [illegible] 9 cases of cerebrospinal meningitis, with 15 deaths, [illegible]ses of chickenpox.

Benefit.—A bazaar given at the Waldorf-Astoria [illegible] 8 netted $6,000 for the Hospital for Crippled

Children.——The late Miss Margarette A. Jones has left the Postgraduate, St. Luke's and the Presbyterian hospitals a bequest which will give to each institution more than $200,000, the income of which is to be devoted to the care of poor patients.——The late John Inglis has left the Presbyterian Hospital $1,000.——By the will of Rebecca M. St. John the Northern Dispensary of New York will receive $3,000.

Hospital News.—The new wing of St. Vincent's Hospital, Manhattan, was formally opened November 1. The new building is seven stories high and has accommodation for 100 patients. It is fireproof and is thoroughly equipped.——Certificate of incorporation has been filed with the secretary of state by St. Joseph's Hospital, Far Rockaway, for the maintenance of a general hospital.——Bensonhurst Sanatorium Company has been incorporated in Brooklyn, with a capital stock of $100,000, by Dr. Earl H. Mayne and others.——The new Washington Heights Hospital was formally dedicated October 15.

Home Cure of Consumption.—The College of Physicians and Surgeons, Columbia University, announces favorable results of a plan for the cure of tuberculosis which has been employed in an experimental way for the past two years. This plan consists in treating the patient at the clinic and his home. Advice is given both verbally and on printed slips, instructing him how to live a sanitary life, and medicine is furnished when necessary. Each patient is placed in the care of a visiting nurse, who reports to the physician the conditions found at the home. During the two years in which the plan has been in operation there have usually been about 100 cases under treatment at one time. During the past year 408 patients were treated and 2,746 visits were made by the nurse.

Hospitals Wasteful.—The report of the findings of the committee on hospital needs and hospital finances, which has been at work since March of this year, states that the private hospitals of New York are extravagant in the use of costly drugs and dressings and that they do not receive the support from charitable persons that their work deserves. This committee is composed of men of large hospital experience and responsibility, who suggest that there should be uniformity in keeping accounts and making reports of work done, as the public has a right to know that hospitals are run under the most economical basis consistent with efficiency in treatment. The committee also suggests that the hospitals co-operate and purchase coal "in cargo" and that by similar co-operation they might be able to compel the gas company to furnish gas at reduced rates; and also that a large saving would result from the joint purchase of material.

NORTH CAROLINA.

The Prevalence of Disease.—During September measles were reported in 8 counties, whooping cough in 18, scarlet fever in 14, diphtheria in 41, typhoid fever in 67, malarial fever in 39 and smallpox in 11.

September Deaths.—During September 214 deaths were reported in the state, equivalent to an annual death rate of 16.9 per 1,000. Diarrheal diseases are reported to have caused 39 deaths; consumption, 23; heart diseases, 15; typhoid fever, 13; brain diseases, 12, and malarial fever, 10.

Society Entertained.—The Buncombe County Medical Society, with a number of invited guests, including prominent members of the profession without the state, as well as distinguished members of the North Carolina profession, were the guests of Dr. James A. Burroughs at his home in Asheville, N. C., November 6.

College Opens.—The fourth annual opening of the medical department of the University of North Carolina took place at Raleigh September 15. The opening address was made by Dr. Hubert A. Royster, dean and professor of gynecology and abdominal surgery. The standard of preliminary education has been advanced. The senior class numbers 10. Dr. William DeB. MacNider has been transferred to the chair of anatomy in the department at Chapel Hill. He continues his instruction in physical diagnosis, however, in the work of the medical department. Dr. R. S. Stevens of Smithfield has been elected to the chair of clinical pathology; Dr. James W. McGee, Jr., Raleigh, advanced from lecturer to professor of pediatrics, and Dr. Robert S. McGeachy, Raleigh, made instructor in therapeutics and anesthetics. The first two years of preparatory work are done at the university proper in Chapel Hill.

NORTH DAKOTA.

Postgraduate School Incorporated.—The Sixth District Postgraduate Medical School of North Dakota has been incorporated at Bismarck.

Personal.—Dr. A. M. McDonald, Grand Forks, has been appointed coroner of Grand Forks County, vice Dr. Herbert W. Matthews, Emerado, resigned.

North Dakota Medical College Opens.—The Medical College of the University of North Dakota, Grand Forks, opened for the year September 26. The university laboratories, equipment and instruction have been so arranged that the B.A. degree of the institution will admit students to the junior year in the medical college.

OREGON.

Personal.—Dr. H. Volp, Pendleton, and family have moved to the East, where he will locate.

Accident.—Dr. Allan Welch Smith, Portland, formerly assistant quarantine physician of Baltimore, Md., recently met with a painful accident while hunting. His rifle was accidentally discharged, the ball passing through the palm of the hand.

New Building for Willamette University.—The new building for the medical department of Willamette University, Salem, is nearing completion and will be ready for occupancy about January 1. It will cost about $15,000, nearly all of which has been subscribed by the people of Salem.

PENNSYLVANIA.

Diphtheria Closes Schools.—Two township schools near McDonald, the Robbs Run school and the Allegheny school, have been closed on acount of diphtheria.

Personal.—Dr. J. Miller Hyson, Red Lion, landed at New York October 14 after a circumnavigation of the globe.——Dr. Frank P. McCarthy, Oil City, has taken a trip to Wyoming.——Dr. Frank B. Statler, Johnstown, who has been seriously ill with typoid fever, is improving.——Dr. Robert G. Barckley, Milford, is recovering from a serious illness.

Donation Day.—At the hospital day exercises in St. Luke's Hospital, South Bethlehem, $5,000 in cash was donated to the institution by Samuel Thomas of Hokendauqua.——At the donation day of Chester Hospital, October 19, great quantities of supplies were given to the institution and cash donations amounting to $839.30 were also made.

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Marine-Hospital Service, in custody of Passed Assistant Surgeon George B. Young, were totally destroyed. Surgeon Young suffered also a personal loss of $1,000.

Asks Large Appropriation.—The board of trustees of the Mississippi State Insane Hospital, Jackson, has decided to ask the legislature for an appropriation of $150,000 for the purpose of erecting new buildings and making necessary improvements. The hospital is now crowded to overflowing and the board desires to have a detached building erected for a hospital and for the treatment of tuberculous patients.

To Examine into Insane Hospital Management.—Governor Vardaman has appointed a commission to examine into the management of the state insane hospitals located at Jackson and Meridian, consisting of Drs. Vardaman S. McLellan, Canton; Donald P. Street, Vicksburg; Ernest Spiva, Sturgis; Jefferson D. Smythe, Greenville; James W. Gray, Jr, Clarksdale; C. H. Ramsey, Collins, and John W. Young, Grenada.

MISSOURI.

Personal.—Dr. August Rhodes, Carthage, is critically ill at his home in that city.

Smallpox Epidemic.—Birchtree and the adjacent portion of Shannon County are suffering severely from a smallpox epidemic. There are reported to be at least 10 cases, and 4 deaths have occurred.

Opposes Club Doctors.—The Jackson County Medical Society adopted a resolution calling on all physicians engaged by lodges, societies and commercial institutions under contract prices, to resign at once under penalty of suspension from the society.

Diphtheria.—During the month of October 47 cases of diphtheria were reported in Kansas City, 14 less than on the corresponding day of 1904.——The board of health has ordered the fumigation of the Horace Mann and Linwood schools, in which districts the disease has been most prevalent.

Patent Medicine Advertisements.—The secretary of the St. Louis Medical Society has written to the city attorney of St. Louis, calling attention to a violation of city ordinances in the advertising of patent medicines. Some advertisements were characterized as obscene. The latter stated that the legislative committee of the society had appointed a committee consisting of Drs. George Homan, John Young Brown and Henry J. Scherck, to co-operate with the city attorney in enforcing a strict observation of the ordinances regarding advertising.

NEW MEXICO.

Hospital Society Organized.—The citizens of Albuquerque, claiming that eastern and western physicians are in the habit of sending dying tuberculous patients to that city, have established an associated charity hospital for those at present in the city, and will engage in a determined effort to put a stop to the practice of sending the hopelessly ill to New Mexico in the future.

Sanatorium to Open.—The New Mexico Cottage Sanatorium, Silver City, is nearly completed and will be open for patients November 25. The institution will be under the personal management of Dr. Earl S. Bullock. It consists of two main buildings and fifteen separate cottages, each of which accommodates one patient. The institution will be devoted exclusively to the care and treatment of cases of laryngeal and pulmonary tuberculosis.

NEW YORK.

Hospital Sunday.—The annual contribution obtained from city churches for the benefit of Ellis Hospital, Schenectady, October 22, amounted to $1,962.41.

Columbia Alumni Organized.—On November 2 the Columbia Alumni Medical Association of Buffalo was organized, with Dr. Carlton R. Jewett, president; Dr. Arthur W. Hurd, vice-president, and Dr. Edwin L. Bebee, secretary and treasurer.

New Hospital Dedicated.—The new building erected and equipped by Mr. and Mrs. Frederick P. Proctor at Utica at a cost of about $360,000, was formally dedicated and consecrated October 18. The hospital will accommodate 175 patients.

Memorial Hospital Building.—Mrs. G. D. B. Bonbright and Mrs. Robert Bartlett, daughters of the late James C. Hart, will erect a large addition to the Rochester City Hospital as a memorial to their father. The building will cost about $50,000 and will be three stories in height.

Medical Board Elected.—Dr. Joseph B. Hulett has been elected president; Dr. J. LaT. Hanmer, vice-president, and Dr. Edwin M. Schultz, secretary and treasurer, of the medical board of Thrall Hospital, at Middletown. The resignation of Dr. Edwin Fancher of the attending board was accepted and he was elected a member of the consulting board.

Northern New York Physicians.—The Medical Association of Northern New York met in Malone October 24 and elected the following officers: President, Dr. E. S. McClellan, Saranac Lake; vice-president, Dr. William C. Smith, Winthrop; secretary, Dr. Alfred G. Wilding, Malone, and treasurer, Dr. George H. Oliver, Malone. The association will meet in Malone next year.

Visitors to State Hospital.—The State Hospital, Buffalo, was visited October 23 by a royal commission of English visitors and philanthropists, who are making a tour of investigation of the institutions for the care and control of the feeble-minded in the United States. The commission was made up of W. B. Byrne, C.B., W. H. Dickinson, H. B. Donkin, F.R.C.P., J. D. Dunlop, F.R.C.P., and Mrs. Hume Pinsent.

Diphtheria.—Diphtheria is reported epidemic in Charlotte, and strict quarantine is being observed.——Public schools 59, 60, 64 and 65 of Brooklyn have been ordered closed pending official investigation of diphtheria which is prevalent in that section.——The public schools of Union Course have been ordered closed by the health department because the residents of that section would not allow the health inspectors to examine their children.

Central New York Physicians.—The Medical Association of Central New York held its thirty-eighth annual meeting in Buffalo October 24. Among the papers read was one on bony atrophy by Dr. Louis A. Weigel, Rochester, who as the result of his researches into the employment of *x*-rays, recently lost his right arm and three fingers of his left hand. The following officers were elected: President, Dr. David M. Totman, Syracuse; vice-presidents, Drs. William B. Jones, Rochester, and Lemuel L. Tozier, Batavia; secretary, Dr. Clarence A. Greenleaf, Rochester, and treasurer, Dr. William M. Brown, Rochester.

Personal.—Dr. Robert Frazer of the staff of the Riverside Accident Hospital, Buffalo, was operated on October 17 for appendicitis, and is reported as improving.——Dr. Max C. Breuer and family, Buffalo, returned from Europe October 21.——Dr. Fred M. Barney, Dolgeville, has received a government appointment in Cuba.——Dr. James E. O'Malley, Newburgh, who has been confined to his home for some time as the result of a broken patella, has resumed practice.——Dr. George H. Torney, first assistant physician at the State Hospital, Utica, has gone to California for a visit.——Dr. Douglas A. White, superintendent of the Hospital of the Good Shepherd, Syracuse, has resigned, to take effect December 1.——Bert E. Nelson has been appointed bacteriologist of the board of health of Binghamton.——Dr. Warren B. Stone has been appointed bacteriologist of Schenectady, vice Dr. Norman B. Saunders, removed from the city.——Dr. Henry H. Davidson, Northport, formerly coroner of Suffolk County, fell October 24 while walking across his office and fractured his hip.

New York City.

Home for Consumptives.—Under the direction of the *Tribune* Sunshine Society, Dr. James S. Ennis is to establish a Home for Consumptives in Florida.

New York Surgical Society.—At the annual meeting of this society November 8 the following officers were elected: President, Dr. George Woolsey; vice-president, Dr. Joseph A. Blake, and secretary and treasurer, Dr. John A. Hartwell.

Personal.—Dr. William J. Robinson, editor of the *Medico-Pharmaceutical Critic and Guide*, has returned from Europe after an absence of nine months.——Drs. Murray M. Rarick and W. E. Lippold have been appointed house surgeons and Dr. E. J. Dorn, ambulance surgeon, at the Williamsburg Hospital.

Signed False Death Certificate.—Dr. George E. Morgan, who in July last gave a certificate of the death of Mamie Jeanette Thompson, certifying that she had died from tumor, pleaded guilty November 8 to having falsely signed a death certificate and was sentenced to ten days' imprisonment in the Tombs and to a fine of $200.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended November 4, 363 cases of tuberculosis, with 150 deaths; 279 cases of diphtheria, with 22 deaths; 169 cases of measles, with 5 deaths; 77 cases of typhoid fever, with 11 deaths; 79 cases of scarlet fever, with 6 deaths; 9 cases of cerebrospinal meningitis, with 15 deaths, and 132 cases of chickenpox.

Hospitals Benefit.—A bazaar given at the Waldorf-Astoria on November 8 netted $6,000 for the Hospital for Crippled

Children.——The late Miss Margarette A. Jones has left the Postgraduate, St. Luke's and the Presbyterian hospitals a bequest which will give to each institution more than $200,000, the income of which is to be devoted to the care of poor patients.——The late John Inglis has left the Presbyterian Hospital $1,000.——By the will of Rebecca M. St. John the Northern Dispensary of New York will receive $3,000.

Hospital News.—The new wing of St. Vincent's Hospital, Manhattan, was formally opened November 1. The new building is seven stories high and has accommodation for 100 patients. It is fireproof and is thoroughly equipped.——Certificate of incorporation has been filed with the secretary of state by St. Joseph's Hospital, Far Rockaway, for the maintenance of a general hospital.——Bensonhurst Sanatorium Company has been incorporated in Brooklyn, with a capital stock of $100,000, by Dr. Earl H. Mayne and others.——The new Washington Heights Hospital was formally dedicated October 15.

Home Cure of Consumption.—The College of Physicians and Surgeons, Columbia University, announces favorable results of a plan for the cure of tuberculosis which has been employed in an experimental way for the past two years. This plan consists in treating the patient at the clinic and his home. Advice is given both verbally and on printed slips, instructing him how to live a sanitary life, and medicine is furnished when necessary. Each patient is placed in the care of a visiting nurse, who reports to the physician the conditions found at the home. During the two years in which the plan has been in operation there have usually been about 100 cases under treatment at one time. During the past year 408 patients were treated and 2,746 visits were made by the nurse.

Hospitals Wasteful.—The report of the findings of the committee on hospital needs and hospital finances, which has been at work since March of this year, states that the private hospitals of New York are extravagant in the use of costly drugs and dressings and that they do not receive the support from charitable persons that their work deserves. This committee is composed of men of large hospital experience and responsibility, who suggest that there should be uniformity in keeping accounts and making reports of work done, as the public has a right to know that hospitals are run under the most economical basis consistent with efficiency in treatment. The committee also suggests that the hospitals co-operate and purchase coal "in cargo" and that by similar co-operation they might be able to compel the gas company to furnish gas at reduced rates; and also that a large saving would result from the joint purchase of material.

NORTH CAROLINA.

The Prevalence of Disease.—During September measles were reported in 8 counties, whooping cough in 18, scarlet fever in 14, diphtheria in 41, typhoid fever in 67, malarial fever in 39 and smallpox in 11.

September Deaths.—During September 214 deaths were reported in the state, equivalent to an annual death rate of 16.9 per 1,000. Diarrheal diseases are reported to have caused 39 deaths; consumption, 23; heart diseases, 15; typhoid fever, 13; brain diseases, 12, and malarial fever, 10.

Society Entertained.—The Buncombe County Medical Society, with a number of invited guests, including prominent members of the profession without the state, as well as distinguished members of the North Carolina profession, were the guests of Dr. James A. Burroughs at his home in Asheville, N. C., November 6.

College Opens.—The fourth annual opening of the medical department of the University of North Carolina took place at Raleigh September 15. The opening address was made by Dr. Hubert A. Royster, dean and professor of gynecology and abdominal surgery. The standard of preliminary education has been advanced. The senior class numbers 10. Dr. William DeB. MacNider has been transferred to the chair of anatomy in the department at Chapel Hill. He continues his instruction in physical diagnosis, however, in the work of the medical department. Dr. R. S. Stevens of Smithfield has been elected to the chair of clinical pathology; Dr. James W. McGee, Jr., Raleigh, advanced from lecturer to professor of pediatrics, and Dr. Robert S. McGeachy, Raleigh, made instructor in therapeutics and anesthetics. The first two years of preparatory work are done at the university proper in Chapel Hill.

NORTH DAKOTA.

Postgraduate School Incorporated.—The Sixth District Postgraduate Medical School of North Dakota has been incorporated at Bismarck.

Personal.—Dr. A. M. McDonald, Grand Forks, has been appointed coroner of Grand Forks County, vice Dr. Herbert W. Matthews, Emerado, resigned.

North Dakota Medical College Opens.—The Medical College of the University of North Dakota, Grand Forks, opened for the year September 26. The university laboratories, equipment and instruction have been so arranged that the B.A. degree of the institution will admit students to the junior year in the medical college.

OREGON.

Personal.—Dr. H. Volp, Pendleton, and family have moved to the East, where he will locate.

Accident.—Dr. Allan Welch Smith, Portland, formerly assistant quarantine physician of Baltimore, Md., recently met with a painful accident while hunting. His rifle was accidentally discharged, the ball passing through the palm of the hand.

New Building for Willamette University.—The new building for the medical department of Willamette University, Salem, is nearing completion and will be ready for occupancy about January 1. It will cost about $15,000, nearly all of which has been subscribed by the people of Salem.

PENNSYLVANIA.

Diphtheria Closes Schools.—Two township schools near McDonald, the Robbs Run school and the Allegheny school, have been closed on acount of diphtheria.

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Money for Health Department.—The councils committee on public health and charities has recommended an appropriation of $650,496 for the year 1906. Of this amount $285,156 is required for the maintenance of the Philadelphia Hospital and $80,140 for expenses of the office of director of public health and charities.

Hospital Reports.—The additional reports of the hospitals for October show that 58 patients were under treatment in the Kensington Hospital for Women; that 67 operations were performed, and that 36 new patients and 137 old patients were treated in the dispensary.——The report of the Medico-Chirurgical Hospital shows that 7,492 patients were treated.

Reading Relief Report.—The statement for the month of September, 1905, of the Philadelphia & Reading Relief Association shows an expenditure of $23,009.40, out of which $12,300 was paid for deaths and $10,709.40 for disability. The number of deaths was 23, of which 12 were from accidental and 11 from natural causes; 1,109 new cases were reported.

Internes Will Get Their Deposits.—The fourteen physicians who occupied positions as internes at the Philadelphia Hospital in 1903 and who each paid a deposit of $100, will receive their deposits as soon as the estate of the late superintendent of the hospital can be audited by the court. The deposit is required from each interne as a guarantee against loss by breakage of apparatus.

Medical Inspection in October.—The report of the division of medical inspection of the Bureau of Health for the month of October shows that 6,020 inspections were made, excluding schools; 506 fumigations were ordered, and 11 cases were presented for special diagnosis. The inspectors made 5,351 visits in the schools and excluded 877 children from attendance; 84 cultures were collected; 81 injections of antitoxin were given and 1,120 vaccinations were performed.

Bequests.—By the will of Sue M. Remak the German and Episcopal hospitals receive $100 each.——By the will of Miss Marie E. Brasier St. Joseph's Hospital receives $5,000 for a free bed in memory of Charles A. Brazier, and $5,000 for a bed in memory of Elizabeth P. Brazier. She also bequeathes to the same institution certain real estate and moneys derived from other real estate. The will also devises $10,000 to St. Vincent's Home and Maternity Hospital; $3,000 to the Sisters of St. Francis for the maintenance and support of St. Mary's Hospital——The Mount Sinai Hospital is devised $100 in the will of the late George Finkelstein.

Health Report.—The deaths for the week aggregated 438. This is an increase of 44 over the number reported last week, and an increase of 15 over the number reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 6; whooping cough, 4; diphtheria, 9; tuberculosis, 57; cancer, 26; diabetes, 6; apoplexy, 14; heart disease, 41; acute respiratory disease, 42; enteritis, 19; Bright's disease, 46; suicide, 5; accidents, 25; marasmus, 9. There were 251 cases of contagious diseases reported, with 18 deaths, as compared with 178 cases and 17 deaths for the previous week, an increase of 73 cases of contagious disease for the week.

Vital Statistics.—The report of the division of vital statistics of the health bureau for October shows that 1,580 deaths, 2,800 births and 963 marriages were reported. The report of the division of milk inspection shows that 5,200 examinations were made aggregating 116,954 quarts, and that 508 quarts were condemned. There were made 937 microscopic and 5 chemical examinations. The report of the bacteriologic laboratory reveals that 775 diphtheria cultures were examined; 415 specimens of blood for typhoid fever; 950 specimens of milk were analyzed bacteriologically; 111 specimens of sputum were investigated, and 8 disinfection tests were performed. The report further shows that 2,513,700 units of antitoxin were distributed. The chemical laboratory reported 95 analyses.

UTAH.

State Building Condemned.—It is reported that one of the most costly of the buildings occupied by the State Mental Hospital, which was constructed only two years ago at a cost of $30,000, has been condemned as unsafe and likely to collapse at any time.

Health Officers Confer.—At the session of the Association of Health Authorities of Utah, held in Salt Lake City, the following officers were elected: Dr. John S. Gordon, Ogden, president; Dr. Fred W. Taylor, Provo, vice-president; Horace Smith, Salt Lake City, secretary, and Dr. David O. Miner, Nephi, treasurer.

WISCONSIN.

Smallpox in State Institution.—On account of 10 cases of smallpox discovered among the students of the State Institute for the Blind, Janesville, the institution has been placed under strict quarantine.

Diphtheria.—Washington Harbor schools and churches have been closed and strict quarantine is being maintained on account of an epidemic of diphtheria on Washington Island.——The public school of Eland has been closed on account of diphtheria.

Unlicensed Practitioner Arrested.—Arthur Budan, Milwaukee, was arrested October 3 on a warrant sworn out by the secretary of the State Board of Medical Examiners, charged with practicing medicine without a license. Budan was arrested on a similar charge about a year ago. He claimed to be a graduate of the Harvey Medical College of Chicago, which is not recognized by the state board.

Personal.—Dr. John Van R. Lyman, Eau Claire, has returned from Europe.——Dr. J. Fremont Corbett, Weyauwega, has gone to Southern California for his health.——Dr. H. H. Williams, Sparta, has moved to Colorado.——Dr. Otto B. Bock, Sheboygan, has been appointed assistant surgeon of the Wisconsin National Guard, with the rank of first lieutenant, and has been assigned to the Second Infantry.——Dr. Thomas Fitzgibbon, Milwaukee, returned from Europe October 28.——Dr. John W. Coon has been made superintendent of the Milwaukee County Hospital, vice Dr. Ernest C. Grosskopf.

Must Report Accidents.—The new law, which went into effect November 1, provides that:

> It shall be the duty of any physician to report any accident to any person whom he shall be called on to care for professionally when such person is thereby incapacitated for pursuing his usual vocation for a period of at least two weeks. The cause, nature, and results of such accident, the place where and the condition of the person at the time it occurred shall be fully described in the report of said physician. The returns of such accident shall be made by the physician and by the public officer, and the fees therefor and the penalties for non-compliance on the part of either the physician or the public officer, shall be the same as in cases of births and deaths.

GENERAL.

Plague in Hawaii.—Dr. Hobdy of the United States Public Health and Marine-Hospital Service reports 2 deaths from plague at Honolulu, October 30.

Malaria on the Isthmus.—It is reported that malaria is prevalent among the laborers on the canal and among the population of Colon and Cristobal. Among the greatest sufferers are the recently arrived laborers from Barbadoes and the West Indies.

The Medical News Absorbed.—It is announced that the A. R. Elliott Company has purchased the *Medical News* of New York City and will consolidate it with the *New York Medical Journal*, Jan. 1, 1906. It will be a regret to those who have appreciated the *Medical News* to have it disappear from the ranks of eastern journalism. It has been understood that since the removal of the *Medical News* to New York it has been gradually losing ground, a fact not at all due to any lack of able editorial supervision or good material furnished in its reading pages. The *Medical News* has stood for high-class journalism, and it is hoped that all its good features will be retained by the purchasers.

Medicolegal Papers Wanted for International Congress.—The committee in charge of the International Medical Congress, which will be held in Lisbon from April 19 to 26, 1906, has written asking for the contribution of papers on the following subjects and their medicolegal relations, and saying that as yet no titles of communications touching on any of these subjects have been received from this country:

The signs of virginity and defloration.
Handmarks and finger prints.
The mechanism of death by hanging.
The value of bacteriologic examination of vulvo-vaginal discharges in the determination of venereal contagion.
The signs of death by drowning.
Ecchymoses.
Spontaneous and criminal abortions.
Blood stains.
The relations between the seat of cerebral contusions and the point of application of the agent which produced them.
Epilepsy.
When is the induction of abortion permissible?
The best legislation for the protection of the "medical secret."
The effects of the civil and penal law toward the newborn living infant.
Organization of medicolegal services.

Any who intend to take part in the discussions of this section, or to prepare papers on these or other subjects, should inform the secretary of the American committee, Dr. Ramon Guiteras, 75 West Fifty-fifth Street, New York.

Women Nurses for the Navy.—Surgeon-General Rixey advocates the employment of women nurses in the navy. The medical department of the army is provided with a corps of trained women nurses, and their adaptability to service conditions and efficiency in institutions under military control have been fully established. Their services, says Dr. Rixey, would be useful in the naval hospitals, insuring for the sick of the navy as careful nursing as is now given to the sick of the army. Women nurses would also be of value in teaching and training the men of the hospital corps, and, in the event of war, besides being utilized on hospital ships, they could, in large part, take the place of the men in the naval hospitals, thereby releasing the latter for service with the force afloat.

Health Report of the Philippines.—The report of the Board of Health of the Philippine Islands for July states that 644 children were born in Manila during the month, a birth rate of 34.49 per 1,000 inhabitants. Seven hundred and ninety-five deaths were reported; of these 747 were residents and the others transients. There were 140 deaths from convulsions of children under 5 years of age, and 107 from pulmonary tuberculosis. Diarrhea and enteritis caused 85 deaths of children under 2 years of age and 52 deaths of older individuals. There were 3 deaths from bubonic plague.

Epilepsy Association to Meet.—The fifth annual meeting of the National Association for the Study of Epilepsy, etc., will be held at the Academy of Medicine, 17 Forty-third Street, New York City, the afternoon and evening of November 29. All persons interested are invited. The program includes the following subjects and authors:

Reports on Progress in the Public Care of Epileptics in New Jersey,, Dr. H. M. Weeks, Skillman; in Kansas, Dr. L. M. Perry, Parsons; in Texas, Dr. John O. Preston, Abilene; in Indiana, Hon. Ezra Mattingly, Washington; in Australia, Miss Alice Henry, England.

Organic Epilepsy, Drs. D. R. Brower, Chicago, and Morgan B. Hodskins, Palmer, Mass.

The Management of the Individual Epileptic, Dr. Edgar J. Spratling, Forsyth, Ga.

Value of Hydrotherapy in Epilepsy, Dr. Guy Hinsdale, Hot Springs, Va.

Can a Colony for Epileptics be [illegible] and, if so, How? Dr. Thos. C. FitzSimons, [illegible]

Blood Pressure Observations in [illegible] rd A. Kennedy, Palmer, Mass.

Epileptic Automatism, Dr. Edward Cowles, Boston.

Traumatic Psychic Epilepsy, Dr. Pearce Bailey, New York City.

Hospital Care and Treatment of Epileptics. Dr. Arthur O. Morton, Palmer, Mass.

Cases will be reported by Dr. Everett Flood, Palmer, Mass. Secretary of the association and by Drs. Matthew Woods, Philadelphia; N. B. Ross, Sonyea, N. Y.; W. P. Spratling, Sonyea, N. Y., and W. G. Chase, Boston.

Yellow Fever News.—In all, New Orleans has had 3,400 cases of yellow fever, with 451 deaths, a mortality of 13.26 per cent. At the present time there are only four or five cases under treatment.——Vicksburg reports that its epidemic expenses were between $15,000 and $20,000.——At Pensacola conditions are greatly improved, less than 40 cases being under treatment. In all, Pensacola has had over 560 cases, with some 80 deaths, a death rate of 14.28 per cent.——Charleston, S. C., on October 30 abandoned its quarantine.——One of the most serious sequels of the epidemic in New Orleans is now to the fore. On November 5 it was announced that Dr. Joseph Holt, who for years was president of the Louisiana Board of Health, had issued a circular letter making very grave charges against Dr. E. Souchon, president of the Louisiana State Board of Health, and Dr. Quitman Kohnke, health officer of New Orleans. Their conduct of the early days of the epidemic is directly attacked and their motives are impugned. This scandal threatened to raise its head during the epidemic. Now it evidently must be thrashed out to a finish, until reputations are cleared of suspicion. It is very unfortunate and yet full investigation will for all parties be preferable to repetition of gossip and scandal.——Later and more reliable reports from Natchez indicate that the city did not have a non-intercourse system, but a rigid exclusion of people from infected points, others being admitted by certificate. Almost from the beginning the Adams County Medical Society appointed a committee of seven, which acted as an advisory board of health.——On November 10, though nearly all quarantines are down, the press published a queer story of the detention by the Texas authorities of Miss Dorothy Tennant and her entire "College Widow" Company. They are said to have been appearing in towns that have not been infected, and, according to the story, a strong protest is being made, especially at the prospect of the company living a week in quarters recently tenanted by negroes and Italians.——Havana, Cuba, on November 10 reported 2 cases of yellow fever, both of the patients being alleged to be recent arrivals from New York. Evidently a different explanation will come later.

FOREIGN.

The Chair of Obstetrics at Edinburgh.—The curators of Edinburgh University have appointed Sir Halliday Croom to succeed Professor Simpson as teacher of obstetrics in that institution.

Supposed Yellow Fever Scare in Cuba.—A case supposed to be yellow fever was reported from Guantanamo; the patient died and the autopsy showed gastric ulcer and chronic nephritis, but no lesions of yellow fever.

The Medical Mayor of Lyons Appointed Governor of Madagascar.—Dr. Augagneur has been mayor of Lyons for several years and has made a fine record for his administration. His innovations and the energy with which he conducts affairs have long won for him in Lyons the title of the "emperor." We learn that he has recently accepted the position of governor of Madagascar.

The Virchow Monument in Berlin.—The memorial to Virchow is to be erected on the Karlsplatz, and $16,000 are already in hand for the purpose. Nearly half this amount was raised by subscription, the municipality making up the balance. Prizes of $600, $400 and $200 have been appropriated for the most suitable design for the memorial, the artists being left unrestricted as to style and size.

Congress of Criminal Anthropology.—The sixth Italian Congress of Criminal Anthropology is to convene at Turin April 26, 1906. There will be an exhibition in connection with the congress, and the friends and admirers of Professor Lombroso are planning a public manifestation in his honor on the occasion. A committee has the matter in charge; the chairman is Professor Pagliani, president of the medical faculty of the University of Turin.

Ewald Festival Number of Berliner klin. Wochenschrift.—Prof. C. A. Ewald has been connected as editor with the *Berliner klinische Wochenschrift* for twenty-five years, sharing the editorial responsibility with Prof. C. Posner. On the occasion of his sixtieth birthday, October 30, a special festival number was issued dedicated to him. It contains over 132 pages, while the weekly issue is generally from 18 to 26 pages. Twenty-eight articles are contributed by friends or former pupils and thirteen more by workers in the hospital under his charge. The dedication refers to the beautiful German custom of celebrating in this way the decennial anniversaries of its scientific leaders. It is assumed that a scientist and instructor will be most pleased and proud to be presented with the evidences of serious work done by those who stand the closest to him, scientific communications from his pupils who have received the stamp of his own spirit. "Such a *Festschrift* or *Festnummer* reflects the personality and the worth of the one thus honored better than any other tribute that could be offered." Two at least of the articles in the *Festnummer* are from America.

Italian Congress for Internal Medicine—Phenic Acid Treatment of Tetanus.—This congress (the fifteenth) was held at Genoa, October 24-29. The chief subjects were: "Etiology of Malaria," "Anemia of Parasitic Origin," and "Surgical Treatment of Gastrointestinal Affections." Great interest was aroused by the favorable statistics presented by Baccelli in regard to his method of treating tetanus by subcutaneous injections of phenic acid. Behring has reported a mortality of 44 per cent. with his serum, and Tizzoni 30 per cent. with his, but Baccelli's method has had a mortality of only 10 per cent. in 200 cases, while Woods has had only one death among 34 patients thus treated. Babes' research on dogs, rabbits and pigeons has confirmed the positive action of phenic acid on experimental tetanus. Baccelli proclaims that phenic acid is not only a powerful moderator of the reflexes, but also an excellent antithermic and good antitoxic. The perfect tolerance for it of the most seriously affected patients he regards as a proof that it is needed. "The tolerance for the remedy is directly proportional to the indication for it." He never gives more than 1 gm. or at most 1.5 gm. per day. Queirolo's experience has confirmed Baccelli's. He gives .5 gm. to .7 gm. a day and has never noted any inconveniences nor the slightest kidney disturbance. Ascoli stated that he had kept close watch of all the cases treated by Baccelli, and had become thoroughly convinced of the value of the treatment. As much as .5 gm. should be given without hesitation, pushing to .7 or .8 gm. if necessary, supervising the urine. He added that, when used in treating neuralgia and myalgia, doses up to 0.1 gm. a day should be currently injected. Its success in these affections was what impelled a trial in tetanus. All the speakers agreed that, except in the fulminating or extremely rapid cases of tetanus, the phenic-acid treatment gives results superior to those realized by any other technic to date.

THE SENN BANQUET

TESTIMONIAL BANQUET AND PRESENTATION OF MEDALLION AND LOVING CUP—A SPLENDID TRIBUTE OF PRAISE AND ESTEEM FROM THE MEDICAL PROFESSION

A testimonial banquet was given to Dr. Nicholas Senn, *Chicago, at the Auditorium Hotel, Saturday evening, Nov. 11,* 1905.

There was an attendance of 686, and from forty to fifty physicians, approximately, were turned away because proper accommodations could not be provided for them—a matter of great regret to the committee of arrangements. There were representatives present from twenty states. Dr. William A. Evans, Chicago, acted as toastmaster. Messages of congratulations were read from several prominent physicians in different parts of the United States, who regretted their inability to attend this notable event.

Dr. Joseph D. Bryant, New York City, presented a gold medallion to Dr. Senn, miniature replicas of which were distributed among those in attendance. On one side of the medallion was a likeness of Dr. Senn; on the other the inscription: "To Nicholas Senn, the Master Surgeon, from his Fellows, November 11, 1905." Dr. L. G. Nolte, Milwaukee, Wis., presented Dr. Senn with a silver loving cup, given by his former private pupils.

Between the speeches were interspersed musical selections by the Swiss Quartette and singing by the banqueters, Dr. Norval H. Pierce leading. Drs. Fernand Henrotin, Daniel R. Brower, Jacob Lang, and William E. Quine related very amusing and interesting anecdotes about Dr. Senn. Addresses were made by Drs. Witherspoon and McMurtry.

The occasion was a memorable one. Good fellowship prevailed, and Dr. Senn, the center of attraction, received a tremendous ovation.

This Banquet One of a Series.

Toastmaster Evans, after calling the meeting to order, said that, in a certain sense, this testimonial to Professor Senn is not the result of Chicago effort, but represents the spontaneous sentiment of the profession of the Mississippi Valley. Viewing the matter from that standpoint, he said there was no reason why a word of welcome should not be said to any man within the sound of his voice. But, on the other hand, there are many men who have journeyed to Chicago from afar in order to add their testimony, their presence, and their words to the testimonial that is given by those who live in the city of Chicago. In behalf of the central committee of arrangements, he extended a welcome to the visiting physicians from the Mississippi Valley, from the eastern seaboard, from the gulf states, and from the states of the Pacific. While Professor Senn is the beneficiary of this meeting, we are no less gainers by it. This is a series of banquets started some years ago, and there are hundreds present who remember how a similar banquet served to sustain the declining years of a man whom the profession all honored, and there are those who every day make acknowledgement of the fact that at that selfsame moment this section of the country was made a better land to live in and a better land in which to practice medicine. Dr. Evans referred to the banquets given to Christian Fenger and N. S. Davis, after which he introduced Dr. Joseph D. Bryant, New York City, who presented Dr. Senn with the gold medallion.

Presentation of the Medallion.

DR. BRYANT said that he knew of nothing that gives him greater comfort than to be able to fulfill the humble position that he was requested to do, the opportunity of spanning, by a few sincere, honest words of affection and praise, the brief interval between the bestowal of a token of distinguished regard and its acceptance by Dr. Senn, whom the profession so much delight to honor. It is fitting that one whose professional career began about the time of that of Dr. Senn should be chosen for this gracious purpose; one whose effort to emulate his achievements added much to the total of his own; one whose respect for him, begotten of years of friendly intercourse, has deposited in his heart a regard for him that knoweth no abatement.

Along the pathway of medical endeavor for nearly a quarter of a century noted and enduring examples illustrative of the wise forethought and generous co-operation are seen in the cause of advanced standing. Instances of his surgical technic foretell notable results that now proclaimed great surgical triumphs. The organization of military medicine, of no recent date, has yielded an abundant harvest because of his early conceptions and continued earnest culture. The books made by him, those given by him, will testify, respectively, to the bright sunshine of active life and the somber shadow of recollection. Human afflictions, which before his time yielded only to indomitable fate, now yield to the outcome of the inspiration of his teaching and the handiwork of his technic. Long-deferred and defeated hopes are now revealed in the happy opportunities contributed by the saving graces of reparative wisdom and skill of which he has given the lion's share.

Dr. Senn is classed a distinguished man, a distinguished surgeon—distinguished not only because of his surgical attainments, but because of the high standard of his ethical instincts and ennobling attributes of a generous nature. May I not, at this time, as a humble servant of joyous friends, present to him, in their behalf, this beautiful symbol of the love and respect which they cherish for him; the likeness of a sterling man, embossed on pure gold, and bearing the legend of true distinction? (Here Dr. Bryant presented Dr. Senn with a gold medallion, the audience arose, waved handkerchiefs and cheered lustily.)

He expressed the hope that this token, emblematic of that which is noblest in human character, may serve to admonish doubting souls to strive for the highest and best of aims. (Applause.)

Loving Cup Presented.

The next speaker introduced was Dr. L. G. Nolte, Milwaukee, Wis., who presented a silver loving cup in behalf of Dr. Senn's former private students, and in so doing said: "As a token of love and affection, Dr. Senn, I present you with this cup (handing the cup to Dr. Senn), the emblem of love, and wish you a great many more years of usefulness, and trust that you may spend the afternoon of your life in good health." (Applause.)

At this juncture, at the suggestion of a South Dakota physician, who was unable to be present, the toastmaster requested the audience to rise and drink a toast to the late Christian Fenger, the teacher of Nicholas Senn, which was accordingly done.

Dr. Senn's Reply.

The toastmaster then introduced Dr. Senn, who was enthusiastically received. He rose amid the waving of handkerchiefs and hearty cheers, and when quiet was restored said, among other things: "I accept from your hands, Dr. Bryant, this beautiful medallion, and assure you that I would rather accept it from your hands than from the hands of any one I know of. I appreciate this tribute. I value it much more highly than I would a decoration by a royal hand." (Applause.) "That means the judgment of one man. This is an expression of love, respect and good wishes of the noblest of all professions." (Applause.) "There are two things in this world, Dr. Bryant, that have always an intrinsic value; one is labor, the other is gold. This medallion will be cherished and highly valued as a souvenir of this memorable gathering. It is to me an evidence that my labors, arduous as they may have been, have not been entirely in vain. I thank you, Dr. Bryant, for your presence and for your eloquent address. I wish also to thank Dr. Nolte as the spokesman of my old students, and wish to tell him that I may have been in the past a somewhat severe master; I may have seemed to my students unjust at times (cries of never, never). But let me say to you I have never asked a student to do what I would not do myself." (Applause.)

Dr. Senn then read a poem, the text of which, he said, was taken from one of the most famous of the ancient philosophers—Seneca. The title of the poem was "For Life is Short, and Art is Long."

In conclusion, Dr. Senn said: "Let me return my heartiest thanks, first, to the members of the committee of arrangements, and particularly to Dr. Evans. I thank all the gentlemen who have come from afar to bring me tributes from the profession. I thank the Swiss choir for their sweet songs, and I thank each one of you for your presence, for your friendship, for your respect, and for your good wishes." (Loud and prolonged applause.)

Mayo on "American Surgery."

The next speaker was Dr. William J. Mayo, Rochester, Minn., who spoke to the toast, "American Surgery." Dr. Mayo said that there is a surgery in this country that is so typical and characteristic that it can be said to be "American surgery." There was a time in which it did not exist. Twenty years ago the surgery of the United States of America was the surgery of the world, based on clinical observation and a most inadequate pathologic foundation. The early contributions to surgery in America did not come entirely from the seacoast cities, although great and noteworthy were they, but they came from this country as a whole. Bigelow, Mott, Morton and many others from the seacoast did most notable things; but we must recollect that Sims, Battey and McDowell came from the South; and we had, in Indianapolis, Bobbs, who did the first operation on the gall bladder, and Connors, who first removed the stomach in the Mississippi Valley. We had Wolcott, of Milwaukee, who operated first on the kidney; then we had Brainard and Gunn and Edmund Andrews, of Chicago. But twenty years ago we were behind in surgical pathology. Here and there men of European education had come to this country and established spheres of influence for scientific work. The work of Fenger, of Chicago; Lange, of New York, and others, while to a certain extent local in character, was of incalculable benefit to the people of the entire country. The mass of the profession of this country twenty years ago were behind the Germans in pathology. Germany in scientific surgery had passed us by. The mass of the profession in this country did not know the position they occupied until Senn's "Principles of Surgery" was published. (Applause.) This book was popular. It had its effect in diffusing knowledge and surgery in this country became instantaneous. This book did more to teach the profession how little they knew and how much that was being accomplished than any one thing that had happened. Following this were notable contributions to surgical pathology by Roswell Park, by John Collins Warren, of Boston, and others. At about this time there also appeared the great book of Gerster. It taught the profession how to apply the new knowledge which Senn, Fenger and others had brought forth. There appeared at this time, too, a series of letters from abroad, published in The Journal of the American Medical Association, and written by Senn, describing in clear-cut, forcible language the conditions as they actually existed in German clinics. These letters told the profession what they did, what they thought, and how they did it. Dr. Senn had written up the work of these men in such an absorbing and fascinating style that every man felt as though he himself had visited these clinics, and had seen these men work. These letters were a stimulus for every medical student, who desired to do surgery, to go to Germany or be drawn there as by a magnet. Every man who did surgery felt he could not do justice to his patients if he had not been abroad, and consequently he slaved and saved for the purpose. Multitudes of American students went to Germany, so that there were more medical students in Germany than in all the other foreign countries combined. American surgery was soon Germanized in the United States under the leadership of Dr. Senn. In ten years America was Germanized in surgical pathology. American students, who had attended German clinics, brought back what was best in each one and all of this was grafted on American surgery. In America, more than in any other place, there is now taught what may be called a living pathology. The scientific German accepts little that does not emanate from the deadhouse or does not come from the laboratory.

Another characteristic in this country which has been carried out more thoroughly than in any other place abroad is this: We see borderline cases in which the surgeon and physician must work in harmony. Joint investigations are necessary. Therefore, the laboratory, postmortem examinations, the physician, the surgeon, must enter into the making of scientific surgery.

At a time when American surgery was relatively held in contempt, Senn, by a series of brilliant articles on practical subjects, such as pancreatic disease, branchial cysts, etc., made the surgeons of the world respect America. It is fitting, therefore, that the profession should acknowledge their indebtedness to this man, whose work has been an inspiration to ambitious Americans, and to know that by hard work a reputation can be built up in the West that is durable, and for this and many things more the profession owes a lasting debt to Senn. (Applause.)

Tribute from the Army.

Col. Philip F. Harvey, U. S. A., the next speaker, said that Dr. Senn has not only made substantial surgical contributions to the medical service of the army, but has extended many favors and rendered many kindnesses to the members of his corps.

Tribute from American Medical Association.

Dr. Lewis S. McMurtry, Louisville, Ky., said that Dr. Senn does not belong to the profession of Chicago; he belongs to no section, to no locality, but to the profession of the entire country. Besides, he is an American. (Applause.)

In the great advances that have been made in medicine and surgery during the past twenty years, surpassing in their extent and progress all that has been known in medical science in any century, the most potent influences in this great advancement have been the medical societies and medical press. They have played an important part in the stimulation of original research, in the development of individuality, and in the diffusion of knowledge. The local medical societies have grown both in size and number; they have become great postgraduate schools from which no pupil ever graduates.

There are medical societies which have varied functions. There are national associations for the development of special work, as the American Surgical Association, American Gynecological Society, etc. These societies are performing various important functions in the advancement of medical science in this country. They are limited in membership, and consist almost exclusively of authors, teachers and men who are known to be in the advanced rank as authorities in the various departments of medicine and surgery.

The American Medical Association has a function almost exclusively its own, almost unique, among the medical organizations in this country, namely, to reach the great body of the profession, to federate into one great organized body, through county, district and state societies, the organization of the profession which will be in accord with the spirit of the age, as seen in every department of human endeavor, and to diffuse knowledge among the members of the profession by the publication of a great weekly medical journal, and to bring the profession into close touch, so that great work can be accomplished. It has been the special purpose of this association to reach after the country doctors, the village practitioner, physicians in small towns, and bring them in close touch with one another. This association has, within the past few years, grown to be one of great power, and yet its work has scarcely begun. There are 130,000 physicians in the United States who need to be brought into the district and county societies and within the influence of this great national organization. In this work there have been leaders, among them the founder of the association—Dr. Nathan Smith Davis. Furthermore, through Dr. Senn's achievements, his influence has been felt in the association for years. His contributions to the Section on Surgery and Anatomy have been valuable. The association is the largest body of medical men in the world, and is destined to accomplish work along lines that will be more and more appreciated by the mass of the profession than any other medical society in existence. (Applause.)

The Medical Man Versus the Surgeon.

Dr. John A. Witherspoon, Nashville, Tenn., after captivating the audience by the stories he told in his droll way, said that if medical men had made diagnoses early enough surgeons would have saved thousands of patients they have lost. Since there is so much abdominal surgery being done, there is ample excuse for internists to make diagnoses as early as possible, because surgeons have so frightened the appendix that it curls up behind the cecum and internists can not find it. (Laughter.)

After brief reference to the late Spanish-American war, Dr. Witherspoon said that, should war threaten this country again, the boys of the fathers who wore the gray, and the boys of the fathers who wore the blue, will march side by side, and they will want no man as their surgeon more eagerly than Nicholas Senn. (Applause.) He is not only a great surgeon, but he has shown his patriotism. He is a good citizen. He is ever ready, on any and all occasions, to bare his face to the bayonet of any foe that may threaten this grand and glorious country. Therefore, the profession doubly owes him honor. (Applause.)

Dr. Senn as a Military Surgeon.

Dr. Charles Adams, Chicago, representing the Association of Military Surgeons, said that this organization has now many hundreds of members with one heart, and this beats for its founder, Dr. Nicholas Senn. He recounted Dr. Senn's contributions to military surgery and the active part he has taken in the deliberations of that body.

Dr. Senn as a Traveler.

Dr. Daniel R. Brower, Chicago, spoke of Dr. Senn as a traveling companion and of the trip he took with him around the world via Siberia. He referred to Dr. Senn's international reputation as a surgeon and to the manner in which he was royally and hospitably entertained by distinguished surgeons and physicians in the various cities they visited. Dr. Senn proved himself to be a very agreeable and delightful traveling companion, and their trip proved to be one triumphal march.

Dr. Senn in American Medical Literature.

Dr. Charles A. L. Reed, Cincinnati, said that Dr. Senn had contributed largely and liberally to the value and quality of the great mass of surgical literature. In the last twenty years his contributions to American medical literature amount to more than 250 entries, 238 of which relate to surgical subjects. In the list of titles are 12 printed volumes, some large, some small, but all of them important, many of them being used as text-books, others as standard works of reference in the majority of medical schools in the western hemisphere. Of these contributions a number have been translated into foreign languages. The range of subjects embraces practically every department of surgery. For the most part, these contributions are absolute protocols of original investigation. They cover, among other subjects, the surgery of the pancreas, stomach, the intestines, gall bladder, etc. Dr. Reed commended Dr. Senn's example in broad citizenship, a life actuated by an altruistic spirit of personal self-sacrifice, by a spirit of patriotism. (Applause.)

Dr. Senn as a Thorough Diagnostician.

Dr. William E. Quine, Chicago, spoke of his association with Dr. Senn as an interne at the Cook County Hospital. He has seen Dr. Senn as an interne engaged in controversy with the members of the attending staff of that institution—men who represented the strongest elements of the profession—in relation to problems of diagnosis, and he has seen him floor every one of them, though boy he was. The intensity of his earnestness, the thoroughness of detail in his methods, impressed Dr. Quine and inspired him in his work. It was something of a liberal education to be under the inspiration and guidance of such a man. He investigated thoroughly every case from the very foundation to the most minute and most intricate of its ramifications. Dr. Quine said that he was sure that Dr. Senn will close his professional career as he began it and as he has lived it through every day of his life—with sincerity, with intelligence, with dignity of effort, and with an eye single to the best interests, the greatest happiness of his fellow-men, and the greatest advancement of his brethren in the medical profession. (Applause.)

The singing of "Auld Lang Syne" brought the proceedings to a close.

CANADA.

Less Typhoid in Montreal.—During the whole of 1904 there were 574 cases of typhoid fever in Montreal. The disease has not been near so prevalent during 1905. In the first ten months of the year there were 294 cases, whereas in the same time in 1904 there were 493.

Clergyman Arrested for Practicing Medicine.—The Rev. W. J. Arnold, a well-known Anglican clergyman of Margaret's Bay, Nova Scotia, has been prosecuted by the medical board of Nova Scotia for practicing medicine without a license. The prosecution was not successful, as the minister did not collect any fees.

More Applicants for License.—Twenty-five candidates presented themselves before the examining board of the College of Physicians and Surgeons of British Columbia at the annual examinations held a few weeks ago. Eighteen were successful. The number of applicants for license was greatly in excess of any former year.

Hospital Additions.—A deputation waited on the Ontario government last week, asking aid to provide additional accommodation for the Gravenhurst and Toronto Free Consumption Hospitals. The former has room for 25 patients, the latter for 100.——The new Alexandra Hospital, Montreal, for contagious diseases among Protestants, will be ready for patients in January.——The Western Hospital, Toronto, is erecting a new addition at a cost of $10,000.——A sanitarium for consumptives in Quebec province is shortly to be erected. A company has been organized and has received 500 acres of land from the Quebec government.——Niagara Falls, Ont., is to have a hospital at a cost of $17,000.

Pharmacology

Resolutions on Patent Medicines.

The Wabash County Medical Society at a recent meeting adopted the following resolutions, which were sent us by Dr. G. C. Kingsbury:

WHEREAS: The traffic in patent medicines is attended with serious consequences to the individual, often imperiling and destroying life, and,

WHEREAS: The science of medicine is, by the use of such nostrums prevented from extending its beneficent work, and,

WHEREAS: The many publications of our country devote so much space to the advertising of such harmful mixtures containing so large a percentage of alcohol, and,

WHEREAS: You have undertaken a fearless, energetic and practical exposure and attack on this enemy to life and science, we, therefore,

Resolve: That the science of medicine owes you our sincere appreciation for so truthful a presentation of the evils, deceptions, and the facts regarding this baneful industry to the public, and advertisers of these nostrums, and,

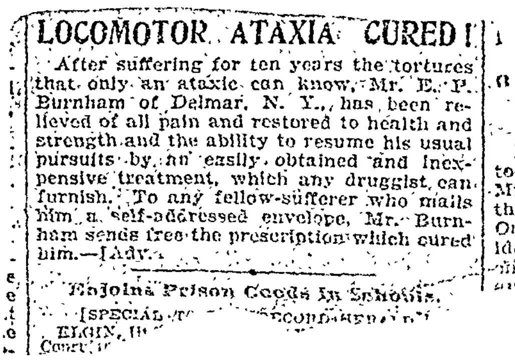
Resolve: That the medical journals should assist in destroying this traffic which is so inimical to the progress of medical science, and lives of the people, and

Resolve: That this society send these resolutions to THE JOURNAL of the American Medical Association, and the *Illinois State Medical Journal.*

BIOPLASM.

A Concrete Instance of the Manner in Which Remedies Supposed to be Ethical Are Exploited to the Laity.

The accompanying advertisement has been appearing in the newspapers for some time, and its resemblance to the old advertisement of the "Rev. Joseph T. Inman" of lost-manhood fame, aroused the curiosity of a member of THE JOURNAL force—or it may have been an innate desire to keep in touch with things. In any event, he, as a layman, answered the advertisement, and, in due time, an imitation typewritten letter was received. In it was rehearsed the old, old story of how the writer had for years suffered the tortures, etc., how he had tried all kinds of physicians, all kinds of patent medicines, serums, various climates, etc., until he heard of the virtues of the medicines which finally cured him. Accompanying the circular letter was a sheet containing the prescription, with full directions. But it was not the "Rev. Joseph T. Inman" trick in all its apparent simplicity; it was Inman improved. Here is the first prescription: "Bioplasm (Bower) series No. 235a, No. 212, in sealed bottles; 2½ oz., containing about 175 tablets, costs $1.50." Then followed the directions. Farther down the sheet is the second preparation, which is: "Sal Lithin. Take a heaping teaspoonful," etc. Bioplasm! Sal Lithin!! Certainly we have seen these names before. "These prescriptions may be had of almost any druggist. If not, send to the manufacturers, Bioplasm Company, 100 William Street, New York."



LOCOMOTOR ATAXIA CURED!

After suffering for ten years the tortures that only an ataxic can know, Mr. E. P. Burnham of Delmar, N. Y., has been relieved of all pain and restored to health and strength and the ability to resume his usual pursuits by an easily obtained and inexpensive treatment, which any druggist can furnish. To any fellow-sufferer who mails him a self-addressed envelope, Mr. Burnham sends free the prescription which cured him.—[Adv.

Enjoins Prison Goods In Schools.

Of course! We pick up certain medical journals and find that "Bioplasm" and "Sal Lithin" are "ethical proprietary" preparations, put up for physicians' use, for are they not advertised in medical journals? We wondered whether or not the Bioplasm Company was aware of the generous work that E. P. Burnham is doing, but this wonder only lasted ten days, for then came a letter from the company itself, with circulars, testimonials and other literature, all appealing directly to the credulous laymen, and especially to those suffering from that terrible affliction, locomotor ataxia. Of course, the literature said that bioplasm is endorsed by physicians, and, in fact, testimonials from medical men were among the literature sent to this layman by the company.

We shall have something more to say about this wonderful cure-all, bioplasm, in the immediate future.

The Great American Fraud, Liquozone.

SAMUEL HOPKINS ADAMS.

Twenty years ago the microbe was making a great stir in the land. The public mind, ever prone to exaggerate the importance and extent of any new scientific discovery, ascribed all known diseases to microbes. The infinitesimal creature with the mysterious and unpleasant attributes became the leading topic of the time. Shrewdly appreciating this golden opportunity, a quack genius named Radam invented a drug to slay the new enemy of mankind, and gave it his name. "Radam's Microbe Killer" filled the public prints with blazonry of its lethal virtues. As it consisted of a mixture of muriatic and sulphuric acids with red wine, any microbe which took it was like to fare hard; but the ingenious Mr. Radam's method of administering it to its intended prey, via the human stomach, failed to commend itself to science, though enormously successful in a financial sense through flamboyant advertising. . . .

In time some predaceous bacillus, having eluded the "killer," carried off its inventor. His nostrum soon languished. To-day it is little heard of, but from the ashes of its glories has risen a mightier successor, "Liquozone." Where twenty years ago the microbe reveled in publicity, to-day we talk of germs and bacteria; consequently Liquozone exploits itself as a germicide and bactericide. It dispenses with the red wine of the Radam concoction, and relies on a weak solution of sulphuric and sulphurous acids, with an occasional trace of hydrochloric or hydrobromic acid. . . . Yet the Liquozone Company is not a patent medicine concern. We have their own word for it.

"We wish to state at the start that we are not patent medicine men, and their methods will not be employed by us. . . . Liquozone is too important a product for quackery."

The head and center of this non-patent-medicine cure-all is Douglas Smith. Mr. Smith is by profession a promoter. He is credited with a keen vision for profits. Several years ago he ran on a worthy ex-piano dealer, a Canadian by the name of Powley (we shall meet him again, trailing clouds of glory in a splendid metamorphosis), who was selling with some success a mixture known as "Powley's Liquefied Ozone." This was guaranteed to kill any disease germ known to science. Mr. Smith examined into the possibilities of the product, bought out Powley, moved the business to Chicago, and organized it as the Liquid Ozone Company. Liquid air was then much in the public prints. Mr. Smith, with the intuition of genius, and something more than genius' contempt for limitations, proceeded to catch the public eye with this frank assertion: "Liquozone is liquid oxygen—that is all."

The object of the company was not to make money, but to succor the sick and suffering. They say so themselves in their advertising. For some reason, however, the business did not prosper as its new owner had expected. A wider appeal to the sick and suffering was needed. Claude C. Hopkins, formerly advertising manager for Dr. Shoop's Restorative (also a cure-all) and perhaps the ablest exponent of his specialty in the country, was brought into the concern, and a record-breaking campaign was planned. This cost no little money, but the event proved it a good investment. President Smith's next move showed him to be the master of a silver tongue, for he persuaded the members of a very prominent law firm who were acting as the company's attorneys to take stock in the concern, and two of them to become directors. These gentlemen represent, in Chicago, something more than the high professional standing of their firm; they are prominent socially and forward in civic activities; in short, just the sort of people needed by President Smith to bulwark his dubious enterprise with assured respectability.

In the Equitable scandal there has been plenty of evidence to show that directors often lend their names to enterprises of which they know practically nothing. This seems to have been the case with the lawyers. One point they brought up: was liquozone harmful? Positively not, Douglas Smith assured them. On the contrary, it was the greatest boon to the sick in the world's history, and he produced an impressive bulk of testimonials. This apparently satisfied them; they did not investigate the testimonials, but accepted them at their face value. They did not look into the advertising methods of the company; as nearly as I can find out, they never saw an advertisement of liquozone in the papers until long afterward. They just became stockholders and directors, that is all. They did as hundreds of other upright and well-meaning men had done, *in lending themselves to a business of which they knew practically nothing.*

While the lawyers continued to practice law, Messrs. Smith and Hopkins were running the Liquozone Company. An enormous advertising campaign was begun. Pamphlets were issued containing testimonials and claiming the soundest of professional backing. Indeed, this matter of expert testimony, *chemical, medical,* and bacteriologic, is a specialty of liquozone. To-day, despite its reforms, it is supported by an ingenious system of pseudo-scientific charlatanry. In justice to Mr. Hopkins, it is but fair to say that he is not responsible for the basic fraud; that the general scheme was devised, and most of the bogus or distorted medical letters arranged, before his advent. But when I came to investigate the product a few months ago, I found that the principal defense against attacks consisted of scientific statements which would not bear analysis, and medical letters not worth the paper they were written on. In the first place, the liquozone people have letters from chemists asseverating that the compound is chemically scientific. . .

[Mr. Adams goes on to say that, on investigation, he found that the technical indorsement obtained by this company, when analyzed, failed to bear out the claims of liquozone as a medicine. Inquiries conducted along medical lines revealed the fact that the published indorsements were either misstatements or a garbled version of what really had been written about liquozone. One physician, a hospital interne, who was paid to make bacteriologic tests of the germicidal power of liquozone, stated that it had shown such powers, but that the product was worthless medicinally. The last half of his report was suppressed; only the first half was printed under the designation of "Report made by the ——— Hospital." Another statement was said to have been published by a Dr. "W. H. Myers" in "The New York Journal of Health." Dr. Myers and that journal, Mr. Adams says, are purely fictitious. Another testimonial purporting to come from a physician was found to have been written by a veterinary surgeon. The Suffolk Hospital and Dispensary in Boston, through its president, Mr. Smith, testified in glowing terms to the remedial value of liquozone, but the hospital medical authorities know nothing of liquozone and never prescribed it. One testimonial was found to be genuine, having been written by a "cancer-cure" specialist, who stated that the letter was "not solicitated." Letters addressed by Mr. Adams to various institutions in Chicago elicited the information that it either had never been used or that it had been experimented with for external application or that a few private patients had purchased it, but on no recommendation from the physicians. Attempts made personally to peruse the "overwhelming number of medical indorsements" failed, the officials of the company claiming that these indorsements were "in the press" and could not be shown.]

. . . In a pamphlet issued by the company and since withdrawn occurs this sprightly sketch:

"Liquozone is the discovery of Professor Pauli, the great German chemist, who worked for twenty years to learn how to liquefy oxygen. When Pauli first mentioned his purpose men laughed at him. The idea of liquefying a gas—of circulating liquid oxygen in the blood—seemed impossible. But Pauli was one of those men who set their whole hearts on a problem and followed it out either to success or the grave. So Pauli followed out this problem, though it took twenty years. He clung to it through discouragements which would have led any lesser man to abandon it. He worked on it despite poverty and ridicule," etc.

Alas for romance! The scathing blight of the legal mind descended on this touching story. The lawyer-directors would have none of "Professor Pauli, the great German chemist," and liquozone destroyed him, as it had created him. Not totally destroyed, however, for from those rainbow wrappings, now dissipated, emerges the humble but genuine figure of our old acquaintance, Mr. Powley, the ex-piano man of Toronto. *He is the prototype of the Teutonic savant.* So much the liquozone people now admit, with the defence that the change of Powley to Pauli was, at most, a harmless flight of fancy, *"so long as we were not attempting to use a name famous in medicine or bacteriology in order to add prestige to the product." A plea which commends itself by its ingeniousness at least.* . . . *Just as to* peruna all ills are catarrh, so to liquozone every disease is a germ disease. Every statement in the new prospectus of cure "has been submitted to competent authorities, and is *exactly* true and correct," declares the recently issued pamphlet, "Liquozone, the Tonic Germicide"; and the pamphlet goes on to ascribe, among other ills, asthma, gout, neuralgia, dyspepsia, goiter, and "most forms of kidney, liver, and heart troubles" to germs. I don't know just which of the eminent authorities who have been working for the Liquozone Company fathers this remarkable and epoch-making discovery. It might be Professor Pauli, or perhaps the sulphuric-acid-proof firm of Dickman & Mackenzie. Whoever it is ought to make the definite facts public, in the interests of humanity as well as their own. Monuments of discarded pill boxes will celebrate the liquozone savant who has determined that dyspepsia is a germ trouble. The discovery that gout is caused by the bite of a bacillus and not by uric acid is almost as important an addition to the sum of human knowlege as the determination of a definite organism that produces the twinges of neuralgia, while the germ of heart disease will be acclaimed with whoops of welcome from the entire medical profession. The old claim is repeated that nothing enters into the production of liquozone but gases, water, and a little harmless coloring matter, and that the process requires large apparatus and from eight to fourteen days' time. I have seen the apparatus, consisting of huge wooden vats, and can testify to their impressive size. And I have the assurance of several gentlemen whose word (except in print) I am willing to take, that fourteen days' time is employed in impregnating every output of liquid with the gas. The result, so far as can be determined chemically or medicinally, is precisely the same as could be achieved in fourteen seconds by mixing the acids with the water. The product is still sulphurous and sulphuric acid heavily diluted, that is all. . . .

[Mr. Adams further states that of the chemists and bacteriologists employed by the Liquozone Company there is not one who will risk his professional reputation on the simple and essential statement that liquozone taken internally kills germs in the human system. Under the direction of Mr. Adams, and in the presence of Dr. Gradwohl, representing the Liquozone Company, a series of guinea-pig tests was made by the Lederle Laboratories. The result was that liquozone was found to have absolutely no curative effect, but did, when given in pure form, lower the resistance of the animals which had been inoculated with anthrax, diphtheria and tuberculosis, so that they died a little earlier than those not treated. Dr. Gradwohl was satisfied of the fairness of the tests and declared that, in his opinion, the tests had proved the total ineffectiveness of liquozone as an internal germicide. Mr. Adams says that these experiments showed further that liquozone may decrease the chances of the patient's recovery with every dose that is swallowed, but certainly would not increase them. Mr. Adams continues as follows:]

Since the announcement of this article, and before, *Collier's* has been in receipt of much virtuous indignation from a manufacturer of remedies which, he claims, liquozone copies. Charles Marchand has been the most active enemy of the Douglas Smith product. He has attacked the makers in print, organized a society, and established a publication mainly devoted to their destruction, and circulated far and wide injurious literature (most of it true) about their product. Of the relative merits of "Hydrozone," "Glycozone" (Marchand's products), and "Liquozone," I know nothing; but I know that the Liquozone Company has never in its history put forth so shameful an advertisement as the one reproduced on this page [which appeared in The Journal, Sept. 23, 1905, p. 936], signed by Marchand, and printed in the New Orleans *States* when the yellow-fever scare was at its height.

And Hydrozone is an "ethical" remedy; its advertisements are to be found in reputable medical journals.—Excerpts from *Collier's Weekly,* Nov. 18, 1905.

MEMBERSHIP OF THE PROPRIETARY ASSOCIATION OF AMERICA

COPIED FROM THE TWENTY-THIRD ANNUAL REPORT

The following is a list of the members of the Proprietary Association of America, taken from the "Twenty-Third Annual Report" of that body:

- ALLCOCK MANUFACTURING CO., NEW YORK.
  - Allcock's Porous Plasters.
  - Brandreth's Pills.
  - Allcock's Corn and Bunion Shields.
- ALTA PHARMACAL CO., ST. LOUIS.
  - Melachol.
  - Phaselin.
  - Rheumagon.
- THE ANASARCIN CHEMICAL CO., WINCHESTER, TENN.
  - Anasarcin Tablets.
  - Anasarcin Elixir.
- ANDREWS MANUFACTURING CO., BRISTOL, TENN.
  - St. Andrew's Wine of Life Root.
  - *St. Andrew's Nerve Builder.*
  - Aunt Dinah's Egg Cream Liniment.
- THE ANGLO-AMERICAN DRUG CO., NEW YORK.
  - "Mrs. Winslow's Soothing Syrup."
- ANHEUSER-BUSCH BREWING ASSOCIATION, ST. LOUIS, MO.
  - "Malt-Nutrine."
- THE ANTIKAMNIA CHEMICAL COMPANY, ST. LOUIS, MO.
  - Antikamnia preparations.
- ARMSTRONG CORK CO., PITTSBURG, PA.
  - Corks and Cork Specialties.
- DR. SETH ARNOLD MEDICAL CORPORATI[illegible] R. I.
  - Arnold's Anti-Bilious Pills.
  - Arnold's Soothing and Quieting Cordial.
- ASCHENBACH & MILLER, PHILADELPHIA.
  - H. H. H. Medicine.
  - Mishler's Bitters.
  - Phila. Bird-food Company's Preparations.
- THE ATHLOPHOROS CO., NEW HAVEN, CONN.
  - Athlophoros.
  - Athlo-Tablets.
  - Athlo-Ointment.
- J. C. AYER CO., LOWELL, MASS.
  - Ayer's Sarsaparilla.
  - Ayer's Hair Vigor.
  - Ayer's Cherry *Pectoral.*
- THE BARKER, MOORE & MEIN MEDICINE CO. (INC.) PHILADELPHIA.
  - Barker's Horse, Cattle and Poultry Powder.
  - Barker's Nerve and Bone Liniment.
- BEGGS MANUFACTURING CO., CHICAGO.
  - Beggs' Blood Purifier.
  - Beggs' Cherry Cough Syrup.
  - Beggs' Diarrhœa Balsam.
- THE R. T. BOOTH COMPANY, ITHACA, NEW YORK.
  - Hyomei Catarrh Cure.
  - Mi-o-na Dyspepsia Cure.
- THE BRADFIELD REGULATOR CO., ATLANTA.
  - The Mother's Friend.
  - Bradfield's Female Regulator.
- THE J. W. BRANT CO., LTD., ALBION, MICH.
  - Wheeler's Nerve Vitalizer.
  - Kirn's Kidney Tea.
  - Brant's Balsam.
- L. M. BROCK & CO., LYNN, MASS.
  - Mrs. Dinsmore's Cough and Croup Balsam.
  - Mrs. Soule's Eradicator.
- FREDERICK BROWN COMPANY, PHILADELPHIA.
  - Frederick Brown's Essence of Jamaica Ginger.
  - Mutter's Cough Syrup.
- JOHN I. BROWN & SON, BOSTON.
  - Brown's Bronchial Troches.
  - Brown's Camphorated Saponaceous Dentifrice.
  - Brown's Vermifuge Comfets.
- LYMAN BROWN, NEW YORK.
  - Seven Barks.
  - Globe Pills.
  - Peptic.
- BROWN MANUFACTURING CO., GREENVILLE, TEN.
  - Ramon's Liver Pills and Tonic Pellets.
  - Ramon's Tonic Regulator.
  - Ramon's Nerve and Bone Oil.
- H. E. BUCKLEN & CO., CHICAGO.
  - Dr. King's New Discovery.
  - Electric Bitters.
  - Bucklen's Arnica Salve.
- JOSEPH BURNETT COMPANY, BOSTON.
  - Cocoaine.
  - Flavoring Extracts.
  - Kalliston.
- DR. W. S. BURKHART, CINCINNATI.
  - Vegetable Compound.
- ALBERT L. CALDER, PROVIDENCE, R. I.
  - Calder's Saponaceous Dentine.
- THE CALENDULINE CO., CHICAGO.
  - Lowry's Calenduline Dressing.
  - Lowry's Eye Tonic.
- CALIFORNIA FIG SYRUP CO.
  - Syrup of Figs.
- J. W. CAMPION & CO., PHILADELPHIA.
  - Wishart's Pine Tree Tar Cordial.
  - Wishart's Pine Tree Tar Plasters.
  - Althene Skin Soap.
- W. D. CARPENTER CO., CHICAGO.
  - Nutriotone.
  - Poultriotone.
- CARTER MEDICINE CO., NEW YORK.
  - Carter's Little Liver Pills.
  - Carter's Little Nerve Pills.
  - Carter's Iron *Pills.*
- CENTRAL VIAVI CO., KANSAS CITY, MO.
  - Distributors of the Viavi Preparations in Nebraska, Iowa, Kansas, and Missouri.
- THE CENTAUR COMPANY, NEW YORK.
  - Castoria.
  - Centaur Liniment.
  - Wei-de-Meyer's Catarrh Cure.
- THE A. N. CHAMBERLAIN MEDICINE COMPANY, EIKHART, IND.
  - Immediate Relief.
  - Restorative Pills.
  - Cough Tablets.
- CHAMBERLAIN MEDICINE CO., DES MOINES, IOWA.
  - Chamberlain's Cough Remedy.
  - Chamberlain's Colic, Cholera and Diarrhœa Remedy.
  - Chamberlain's Pain Balm.
- DR. A. W. CHASE MEDICINE CO., BUFFALO.
  - Dr. Chase's Nerve Pills.
  - Dr. Chase's Kidney Liver Pills.
  - Dr. Chase's Ointment.
- THE CHATTANOOGA MEDICINE CO., CHATTANOOGA.
  - McElree's Wine of Cardui.
  - Thedford's Black-Draught.
  - Black-Draught Stock Medicine.
- CHENEY MEDICINE CO., TOLEDO.
  - Hall's Catarrh Cure.
  - Hall's Family Pills.
- COCA COLA COMPANY, ATLANTA.
  - *Coca Cola.*
- THE W. H. COMSTOCK CO., LTD., MORRISTOWN, N. Y.
  - Dr. Morse's Indian Root Pills.
  - Comstock's Dead Shot Worm Pellets.
  - Comstock's Nerve and Bone Liniment.
- THE COOPER MEDICINE CO., DAYTON, OHIO.
  - Cooper's New Discovery.
  - Cooper's Quick Relief.
  - Dixie Lee Complexion Soap.
- THE CHARLES N. CRITTENTON CO., NEW YORK.
  - Hale's Honey of Horehound and Tar.
  - Pike's Toothache Drops.
  - Hill's Hair and Whisker Dye.
- DAVIS & LAWRENCE CO., NEW YORK.
  - Perry Davis' Pain Killer.
  - Allen's Lung Balsam.
  - Weaver's Syrup and Cerate.
- THE DENVER CHEMICAL MFG. CO., NEW YORK.
  - Antiphlogistine.
- DERM ASEPTIC COMPANY, CHICAGO.
  - Derm-Aseptic Skin Lotion.
- E. C. DEWITT & CO., CHICAGO.
  - DeWitt's Little Early Risers.
  - Kodol Dyspepsia Cure.
  - DeWitt's Witch Hazel Salve.
- DODD'S MEDICINE CO., BUFFALO.
  - Dodd's Kidney Pills.
  - Dodd's Dyspepsia Tablets.
  - Diamond Dinner Pills.
- DOUGLAS MFG. CO., NEW YORK.
  - "New-Skin" Liquid Court Plaster.
- THE ELECTRO-SILICON CO., NEW YORK.
  - *Electro-Silicon.*
- T. B. DUNN CO., ROCHESTER, N. Y.
  - Sen-Sen.
  - Sen-Sen Chewing Gum.
- EASTERN DRUG COMPANY, BOSTON.
  - Hayden's Viburnum Compound.
  - Stone's Cod Liver Oil.
  - Cutler's Pulmonary Balsam.
- EASTERN VIAVI CO., CHICAGO, WASHINGTON, D. C.
  - Viavi.
- THE *EMERSON DRUG CO., BALTIMORE.*
  - Emerson's Bromo-Seltzer.
  - Emerson's Rheumatic Cure.
  - Emerson's Phospho-Aperient.
- THE EVANS CHEMICAL CO., CINCINNATI.
  - Big G.
  - Derma Royale.
  - Derma Royale Soap.
- GEORGE B. EVANS, PHILADELPHIA.
  - Violet Talcum Powder.
  - Violetine Orris.
  - Mum (toilet deodorant).
- DR. PETER FAHRNEY & SONS CO., CHICAGO.
- FAIRCHILD BROS. & FOSTER, NEW YORK.
  - *Fairchild's Essence of Pepsine.*
  - Panopepton.
  - Peptogenic Milk Powder.
- FASSETT & JOHNSON, LONDON, ENG.
  - Calista—for influenza, etc.
- THE FELLOWS MEDICAL MFG. CO., NEW YORK.
  - Fellows Compound Syrup of the Hypo*phosphites.*
- M. M. FENNER'S PEOPLE'S REMEDIES, FREDONIA, N. Y.
  - Kidney and Backache Cure.
  - *Golden* Relief.
  - Blood and Liver Remedy and Nerve *Tonic.*
- FOLEY & CO., CHICAGO.
  - Foley's Honey and Tar.
  - Foley's *Kidney* Cure.
- THE FOSO COMPANY, CINCINNATI.
  - Foso Bark Hair Grower.
  - Foso Foam Hair and Scalp Cleaner.
  - Foso Soap Hair and Scalp Shampoo.
- FOSTER-MILBURN CO., BUFFALO.
  - Doan's Kidney Pills.
  - Doan's Ointments.
  - Burdock Blood Bitters.
- E. FOUGERA & CO., NEW YORK.
  - Blancard's Pills.
  - *Quina* Laroche.
  - Ducro's Elixir.
- SETH W. FOWLER & SONS, BOSTON.
  - Wistar's Balsam of Wild Cherry.
  - Fowler's Pile and Humor Cure.
  - Coca-Cola (General Agents for New England).
- THE FRASER TABLET CO., NEW YORK.
  - Tablet Triturates.
  - Compressed Tablets.
  - Pharmaceutical Preparations.
- GEO. C. FRYE, PORTLAND, ME.
  - Pancreobismuth.
  - Gran. Eff. Salicylic Acid.
  - Syrup Hypo and Nux.
- GARFIELD TEA COMPANY, BROOKLYN.
  - Garfield Tea Preparations.
- W. W. GAVITT MEDICAL CO., TOPEKA.
  - Gavitt's Pain Extractor.
  - Gavitt's System Regulator.
  - Gavitt's Herbal Ointment.
- GILPIN, LANGDON & COMPANY, INC., BALTIMORE.
  - Frey's Vermifuge.
- A. H. GOTTSCHALL, HARRISBURG, PA.
  - Liniment.
  - Cough Balsam.
  - Liver Pills.
- DR. GRANGER MEDICINE CO., CHATTANOOGA.
  - Dr. Granger's Vin-o-Vitae.
  - Dr. Granger's Liver Regulator.
  - Dr. Granger's Uracura.
- G. G. GREEN, WOODBURY, N. J.
  - Boschee's German Syrup.
  - Green's August Flower.
  - Green's Ague Conqueror.
- J. H. GUILD, M.D., RUPERT, VT.
  - Guild's Green Mountain Asthma Cure.
  - Guild's Green Mountain Kidney Cure.
- W. T. HANSON CO., SCHENECTADY, N. Y.
  - Dr. Williams' Pink Pills for Pale People.
  - Hanson's Magic Corn Salve.

- HALL & RUCKEL, NEW YORK.
  - Van Buskirk's Sozodont.
  - *Spalding's Glue.*
  - Porter's Balsam and Bitters.
- HAMLIN'S WIZARD OIL CO., CHICAGO.
  - Hamlin's Wizard Oil.
  - Hamlin's Cough Balsam.
  - Hamlin's Blood and Liver Pills.
- H. H. HAY'S SONS PORTLAND, ME.
  - "L. F." Atwood's Bitters.
- PHILO HAY SPECIALTIES CO., NEWARK, N. J.
  - Hay's Hair Health.
  - Harfina Soap.
  - Skinhealth (Ointment).
- THE HERPICIDE COMPANY, DETROIT.
  - Newbro's Herpicide.
  - Herpicide Soap.
  - Herpicide Color Treatment.
- HIMROD MANUFACTURING CO., NEW YORK.
  - Himrod's Asthma Cure.
- A. S. HINDS., PORTLAND, ME.
  - Hind's Honey and Almond Cream.
- HISCOX CHEMICAL WORKS, PATCHOGUE, N. Y.
  - Parker's Hair Balsam.
  - Parker's Ginger Tonic.
  - Hindercorns.
- HOLLISTER DRUG COMPANY, INC., MADISON, WIS.
  - Hollister's Rocky Mountain Tea.
  - Hollister's Rocky Mountain Tea Nuggets.
- FERD T. HOPKINS, NEW YORK.
  - Oriental Cream.
  - Medicated Soap.
  - Poudre Subtile.
- HORLICK'S FOOD COMPANY, RACINE.
  - Horlick's Malted Milk.
  - Horlick's Food.
  - Horlick's Diastoid.
- THE HOSTETTER COMPANY, PITTSBURG, PA.
  - Hostetter's Stomach Bitters.
- J. E. HOUGH & SONS, MANCHESTER, TENN.
  - Dr. Hough's Liver Tonic.
  - Dr. Hough's Diarrhea Compound.
  - Dr. Hough's Cream White Ointment.
- HOWARD BROTHERS, BUFFALO.
  - Pettit's Eye Salve.
  - Pettit's Pile Remedy.
  - *Pettit's Eye Water.*
- E. W. HOYT & CO., LOWELL, MASS.
  - Hoyt's German Cologne.
  - Rubifoam.
- I. HUBERT, TOLEDO, OHIO.
  - Malvina Preparations.
- HUMPHREY'S HOMEOPATHIC MEDICINE COMPANY, NEW YORK.
  - Humphrey's Homeopathic Specifics, etc.
- ILLINOIS GLASS CO., ALTON, ST. LOUIS, CHICAGO.
  - Bottles of every description.
- THE J. W. JAMES CO., WHEELING, W. VA.
  - Dr. James Miniature Headache Powders.
  - Dr. James Cherry Tar Syrup.
  - Dr. James Soothing Syrup.
- DR. D. JAYNE & SON., PHILADELPHIA.
  - Jayne's Expectorant.
  - Jayne's Tonic Vermifuge.
  - Jayne's Sanative Pills.
- JERMAN PFUEGER & KUEHMSTEAD CO., MILWAUKEE, WIS.
  - N. K. Brown's Essence Jamaica Ginger.
  - N. K. Brown's Teething Cordial.
  - N. K. Brown's Iron and Quinin Bitters.
- I. S. JOHNSON & CO., BOSTON.
  - Johnson's Anodyne Liniment.
  - Sheridan's Condition Powder.
  - Parsons' Purgative Pills.
- JOHNSON & JOHNSON, NEW BRUNSWICK, N. J.
  - Red Cross Kidney Plasters.
  - Johnson's Digestive Tablets.
  - Zonweiss.
- JOHNSTON, HOLLOWAY & CO., PHILADELPHIA.
  - *Heiskell's Ointment.*
  - Heiskell's Medicinal Toilet Soap.
  - Heiskell's Blood and Liver Pills.
- KEASBEY & MATTISON CO., AMBLER, PA.
  - *Alkalithia.*
  - Granulated Effervescent Salts.
  - Bromo-Caffeine.
- DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.
  - Kendall's Spavin Cure.
  - Kendall's Blister.
  - *Prof. Flint's H. & C. Condition Powder.*
- THE KOENIG MEDICINE CO., CHICAGO.
  - Pastor Koenig's Nerve Tonic.
  - Pastor Koenig's Elixir Iron.
  - Pastor Koenig's Little Herb Pills.
- KIMBALL BROS. & CO., ENOSBURG FALLS, VT.
  - Dr. B. J. Kendall's Blackberry Balsam.
  - Dr. B. J. Kendall's Pectoral Elixir.
  - Dr. B. J. Kendall's Quick Relief.
- *KOHLER MANUFACTURING CO., BALTIMORE.*
  - Kohler's "Antidote" for Headache.
  - Kohler's "One Night Corn Cure."
  - Kohler's "One Night Cough Cure."
- KONDON MFG. CO., MINNEAPOLIS.
  - Kondon's Catarrhal Jelly.
  - Kondon's Pilease.
- DR. DAVID KENNEDY'S SONS, RONDOUT, N. Y.
  - Dr. David Kennedy's Favorite Remedy.
  - Dr. David Kennedy's Salt Rheum Cream.
  - Dr. David Kennedy's Cal-Cura Solvent.
- DONALD KENNEDY, ROXBURY, MASS.
  - *Medical Discovery.*
  - Rheumatic Dissolvent.
  - Salt Rheum Ointment.
- THE KICKAPOO MEDICINE CO., CLINTONVILLE, CONN.
  - Kickapoo Sagwa.
  - Kickapoo Oil.
  - Kickapoo Worm Killer.
- DR. KILMER & CO., BINGHAMTON, N. Y.
  - Swamp-Root Kidney, Liver and Bladder Cure.
  - U. and O. Ointment.
- MRS. J. A. KOPP, YORK, PA.
  - Kopp's Baby's Friend.
  - Kopp's Cur-a-Cough.
  - Kopp's Electric Worm Syrup.
- KRESS & OWEN COMPANY, NEW YORK.
  - Glyco-Thymoline.
  - K. & O. Nasal Douche.
- KUTNOW BROS., LTD., NEW YORK.
  - Kutnow's Improved Effervescent Powder.
  - Kutnow's Anti-Asthmatic Powder.
  - Kutnow's Anti-Asthmatic Cigarettes.
- LAMBERT PHARMACAL COMPANY, ST. LOUIS, MO.
  - Listerine.
  - Lambert's Lithiated Hydrangea.
  - Listerine Toilet and Listerine Dermatic Soap.
- THE LAWRENCE-WILLIAMS CO., CLEVELAND.
  - Gombault's Caustic Balsam.
- NORMAN LICHTY MANUFACTURING CO., DES MOINES.
  - Krause's Headache Capsules.
  - Krause's Cold Cure.
  - Krause's Liver Pills.
- THE LIQUOZONE COMPANY, CHICAGO.
  - Liquozone.
  - Liquozone Auxiliaries.
  - Liquozone Antiseptic Soaps (Shaving and Toilet).
- I. L. LYONS & CO., LTD., NEW ORLEANS.
  - Brodie's Astringent Cordial.
  - Locock's Cough Elixir.
  - Emmett's Colic and Bots Specific.
- MARIANI & CO., NEW YORK.
  - Vin Mariani.
  - Elixir Mariani.
  - Pate Mariani.
- MILLER DRUG CO., PHILADELPHIA.
  - Miller's Crystal Capsules.
  - De Rings Pile Remedy.
  - Botanic Worm Syrup.
- MELLIER DRUG COMPANY, ST. LOUIS.
  - Tongaline Liquid and Tablets.
  - Tongaline Lithia Tablets.
  - Ponca Compound.
  - Ponca Compound.
- MELLIN'S FOOD CO., OF NORTH AMERICA, BOSTON.
  - Mellin's Food for Infants and Invalids.
- MERCHANTS' GARGLING OIL CO., LOCKPORT, N. Y.
  - Merchants' Gargling Oil.
  - Merchants' Worm Tablets.
- J. S. MERRELL DRUG CO., ST. LOUIS.
  - [illegible] Oil.
  - [illegible]
- A. C. MEYER & CO., BALTIMORE.
  - Dr. Bull's Cough Syrup.
  - *Dr. Bull's Pills.*
  - Salvation Oil.
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  - Teething Powders.
  - Indian Weed.
- MUNYON'S HOMEOPATHIC HOME REMEDY CO., W. PHILADELPHIA.
  - Munyon's Homeopathic Remedies.
  - Munyon's Paw-Paw.
  - Munyon's Witch Hazel Soap.
- MURINE EYE REMEDY COMPANY CHICAGO.
  - Murine Eye Remedies.
- DR. MILES MEDICAL CO., ELKHART, *IND.*
  - Dr. Miles' Nervine.
  - *Dr. Miles' Heart Cure.*
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  - Moxie Nerve Food.
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  - Micajah's Medicated Uterine Wafers.
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  - Herbert's Tonic Elixir of Cod Liver Oil.
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  - Porter's Cure of Pain.
  - Osborn's Golden Ointment.
  - Norris' Condition Powders.
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  - Magic Yeast.
  - Yeast Foam.
- NORWAY MEDICINE CO., NORWAY, ME.
  - Brown's Instant Relief for Pain.
- NOYES BROTHERS & CUTLER, ST. PAUL.
  - Philopaidia.
  - Japanese Pile Cure.
  - St. Paul Chemical Oil.
- OLNEY & McDAID, CLINTON, IOWA.
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  - O. & M.'s Hive Syrup, Honey and Tolu.
  - O. & M.'s Green Mountain Salve.
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  - Omega Oil Horse Liniment.
  - Omega Oil Soap.
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  - Febriline.
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  - Vino Tonico de Wintersmith.
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  - Cas-Grada.
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  - Piso's Tablets.
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  - Airless Process Gelatin Capsules (a Specialty).
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Resinol Soap.
Elixir Cascanata.

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Security Stock Food.
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Cactina Pillets.
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Walker's Tonic.
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Stuart's Dyspepsia Tablets.
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Viavi Pharmaceutical Preparations.

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Wakefield's Blackberry Balsam.
Wakefield's Cough Syrup.
Wakefield's Golden Ointment.

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Preparation of Extract of Cod Liver Oil.
Creo-Terpin Compound.
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Warner's Safe Kidney and Liver Cure.
Warner's Safe Diabetes Cure.
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Daggett & Ramsdell's Perfect Cold Cream.
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Borobenphene.
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Lightning Hot Drops.
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Hagee's Cordial of Cod Liver Oil Compound.
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Leithhead's Vet. Remedy.
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Liver and Kidney Balm.
Strengthening Cordial.
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McNeil's Pain Exterminator.
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Constitution Water.
Constitution Life Syrup.

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Allen's Foot Ease.
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Perfumes and Sachets.
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Carboline.
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Elixirine.

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Pike's Centennial Salt Rheum Salve.

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Pretzinger's Catarrh Balm.
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Anchor Congo Pills.
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Rudy's Pile Suppositories.
Dean's French Female Pills.
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S. T. W. SANFORD & SONS, LONG ISLAND CITY.
Dr. Sanford's Liver Invigorator.

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Tetterine and Tetterine Soap.

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Bottles.

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Tonsiline.

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Turck's Comp. Emulsion.
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Wakelee's Cameline.
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Pile Suppositories.

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Nature's Health Restorer.

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Pruni-Heroin.
Yerba-Quinia.

ZOA-PHORA CO., KALAMAZOO, MICH.
Zoa-Phora.

Marriages

Elmer E. Evans, M.D., to Miss Hazel V. Camp, both of East Oakland, Cal., October 24.

Francis Welsh, M.D., Hospital, Ill., to Miss Lena Ackerman of Yorkville, Ill., recently.

Thomas Elliot Buck, M.D., to Miss Lulu T. Tillewein, both of St. Louis, November 1.

Thomas D. Palmer, M.D., Canon City, Colo., to Mrs. Emma Baily Sherrill, November 8.

T. Edward Bailly, M.D., to Miss Stella Fortmann, both of San Francisco, November 15.

Thomas E. Hoxsey, M.D., to Miss Leila Posey, both of Spokane, Wash., November 7.

Edward Barr, M.D., Rome, Ky., to Miss Annie Ellis of Masonville, Ky., November 2.

Charles Reneau Andrews, M.D., to Miss May Waldo, both of Atlanta, Ga., November 8.

James House Bute, M.D., to Miss Claire Robinson, both of Houston, Texas, November 8.

Paul Lange Cort, M.D., to Miss Mary Reeder Scudder, both of Trenton, N. J., November 16.

J. H. Aleshire, M.D., to Mrs. Addie Miller, both of Plainville, Ill., at Palmyra, October 31.

Russell J. Shull, M.D., Hugo, I. T., to Miss Virginia Claggett of Marlboro, Va., November 1.

Homer Thrall Joy, M.D., to Miss Elizabeth Van Buren, both of New York City, November 9.

Thomas P. West, M.D., Bedford City, Va., to Miss Sallie C. Ford of Lynchburg, Va., November 1.

Loamin J. Smith, M.D., Ridge Springs, S. C., to Miss Lucile Provence of Tuskegee, Ala., October 31.

George Winslop Lawton, M.D., to Miss Susie Schmieding of the City of Mexico, November 11.

Thomas Meares Green, M.D., to Miss Emma Perrin West, both of Wilmington, N. C., November 16.

Clarence Maxfield Frye, M.D., Rock Falls, Ill., to Miss Birdie Ferris, of Sterling, Ill., November 7.

C. Bernard Voigt, M.D., Mattoon, Ill., to Miss Pearl Warner of Shelbyville, Ill., at Chicago, November 6.

Henry Walter Gibbons, M.D., San Francisco, to Miss Hazel Noonan of Los Angeles, Cal., November 15.

Burnley Lankford, M.D., Norfolk, Va., to Miss Henrietta E. Grant, at Charlottesville, Va., November 8.

William H. Morgan, M.D., Keatchie, La., to Miss Lilliore C. Decker of Spottsylvania County, Va., November 8.

Walter Philip Eidmann, M.D., to Miss Cora E. Jackson, both of St. Louis, Mo., at Belleville, Ill., November 8.

Samuel Evans Watkins, M.D., to Miss Mary Leontine Campbell, both of Washington, D. C., November 2.

Samuel Peachy Latané, M.D., to Miss Elizabeth Faulkner Shaw of Marco, Fla., at Valdosta, Ga., November 2.

William K. Newton, M.D., Paterson, N. J., to Miss Cornelia Ridgely Hunt of Washington, D. C., November 15.

Herbert Lee Kneisley, M.D., Westminster, Md., to Miss Daisy Sophia Bester, at Hagerstown, Md., November 9.

John Charles Macgill, M.D., Catonsville, Md., to Miss Annie Campbell Gordon Thomas, at Baltimore, November 8.

Deaths

George Benson Dunmire, M.D. Jefferson Medical College, Philadelphia, 1865, a member of the American Medical Association, the Medical Society of the State of Pennsylvania and once its treasurer, Philadelphia County Medical Society, Pathological Society of Philadelphia and Obstetrical Society of Philadelphia; hospital steward of the One Hundred and Twenty-fifth *Pennsylvania Volunteer Infantry in the Civil* War, died at his home in Philadelphia, October 31.

George W. Hudspeth, M.D. St. Louis Medical College, 1878, a prominent physician of Little Rock, Ark., a member of the American Medical Association, American Public Health Association, Arkansas Medical Society, and Pulaski County Medical Society; ex-member of the Arkansas State Board of Health, died at St. Joseph's Hospital, Memphis, Tenn., October 29, after a prolonged illness from septicemia following an operation on the kidney, aged 54.

Samuel E. Bibby, M.D. Howard University Medical Department, Washington, D. C., 1883, colonel and surgeon general of Idaho, a member of the American Medical Association and of the Association of Military Surgeons of the United States; for several years physician at the Lapwai Indian reservation; regimental surgeon in the Idaho National Guard through the Coeur d'Alene riots, died at his home in Grangeville, Idaho, November 3, aged 52.

Alexander Powe Hall, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1859, of Mobile, Ala., surgeon in the Confederate service throughout the Civil War; and one of the volunteer physicians who served through the yellow fever epidemic in Memphis, Tenn., in 1878, died at the Providence Infirmary, Mobile, October 22, from injuries received in a street car accident the day before, aged 69.

William Henry Borden, M.D. University of Buffalo Medical Department, 1849, a member of the American Medical Association, the oldest member of the Wisconsin Medical Society; surgeon of the First Wisconsin Volunteer Heavy Artillery in *the Civil War;* for many years a member of the board of visitors of the State University, died at his home in Milton, Wis., from senile debility, October 30, aged 81.

***Cornelius N. Lyman,* M.D.** Transylvania University Medical Department, Lexington, Ky., 1843, a member of the American Medical Association; from 1883 to 1887 a member of the General Assembly of Ohio, and especially identified with the interests of the various benevolent institutions of the state, died at his home in Wadsworth, Ohio, October 24, aged 86.

Frederick Templeton Zabriskie, M.D. College of Physicians and Surgeons in the City of New York, 1895, formerly of Phoenix, Ariz., but for two years a practitioner of Pittsfield, Mass.; a member of the Berkshire District Medical Society, and a young surgeon of great promise, died at his father's home in New York City, from pneumonia, November 4, after an illness of two weeks, aged 34.

Elias L. Bissell, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1861, surgeon of the Twenty-second and afterward of the Forty-fourth New York Volunteer Infantry in the Civil War, died at his home in Buffalo, N. Y., November 1, from heart disease, aged 72.

Alfred N. Marion, M.D. McGill University Medical Department, Montreal, 1864, surgeon in the army during the Civil War, agent at the Tulalip Indian Reservation, Wash., in 1887, and thereafter clerk of the United States Court in Walla Walla and a practitioner in Seattle, died suddenly at his home in Seattle, October 20, from nephritis, aged 65.

Hal Walker Manson, M.D. University of Nashville and Vanderbilt University medical departments, Nashville, Tenn., 1867, a Confederate veteran, in 1897 a member of the Texas legislature, died at his home in Rockwall, Texas, October 27, after an illness of several weeks, aged 64.

Helen Frances Warner, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1872, a graduate of Vassar College in 1867, one of the pioneer women physicians of Detroit, died at her home in that city October 23, after an illness of six years, aged 62.

J. B. Bouchard, M.D. University of the Victoria College, Coburg, Ont., 1877, for twenty-five years physician to the east division of the Montreal police force, died at his home in that city November 6, from disease of the throat, after an illness of two years, aged 49.

George W. Kemp, M.D. Charity Hospital Medical College, Cleveland, Ohio, 1863, assistant surgeon of the One Hundred and Thirteenth Ohio Volunteer Infantry in the Civil War, died at his home in Marseilles, Ohio, October 24, after a long illness, aged 83.

Lafayette Charles Loomis, M.D. University of Georgetown Medical Department, Washington, D. C., 1863, of Winthrop Heights, Washington, D. C., one of the founders of Adelphian Academy, Brockton, Mass., died at Frederick, Md., October 17, aged 81.

Clarence B. McClure, M.D. Kentucky School of Medicine, Louisvile, 1871, formerly assistant physician at the Central Indiana Hospital for the Insane, Indianapolis, died at his home in Jeffersonville, Ind., October 28, from disease of the liver, aged 57.

Anthyme S. Menard, M.D. University of Vermont Medical Department, Burlington, 1888, whose injury October 19 by a runaway horse was noted in The Journal of October 28, died from his injuries October 20, at his home in Holyoke, Mass.

James Herbert Austin, M.D. Toronto University, 1893, formerly of Kansas City, Mo., and El Paso, Texas, died at his home in Toronto, November 5, from tuberculosis, after an illness of six years, aged 34.

Morris B. Gerberich, M.D. Pennsylvania, 1887, president of the Lebanon (Pa.) common council, died at his home in Lebanon, Pa., after a short illness, from intussusception of the bowel, November 1, aged 44.

Charles G. McKinley, M.D. Starling Medical College, Columbus, Ohio, 1852, for many years a practitioner of Olathe, Kan., died at his home in Kansas City, Mo., October 24 from senile debility, aged 84.

Edward E. French, M.D. Pennsylvania, 1887, of Trenton, N. J., died in St. Francis' Hospital, Trenton, October 20, from nephritis, after an illness of four years, aged 49.

Carlos Wilcox, M.D. Des Moines, 1887, died at his home in Huron, S. D., October 2, from cerebral hemorrhage, after a long illness, aged 67.

John Frank Lane, M.D. St. Louis, 1889, of Linn, Mo., was drowned while attempting to ford a flooded creek near his home, October 24.

Joseph P. Gregory, M.D. University of Louisville Medical Department, 1873, died suddenly at his home in Gainesville, Ark., October 16.

Penfield B. Goodsell, M.D. Vermont Medical College, Woodstock, 1852, died at his home in Roxbury, Boston, October 24, aged 70.

Charles T. Weatherly, M.D. Atlanta (Ga.) Medical College, 1874, died at his home in Benton, Ala., October 23, aged 53.

Miscellany

THE DEMAND OF THE SOUTH FOR FEDERAL CONTROL OF QUARANTINE.

The following excerpts are from editorials that have recently appeared in newspapers of the southern states. To these are added quotations from a few northern papers. We comment editorially on the subject on page 1576.

Alabama.

"With a rational but thorough national quarantine law, with the government health department in full control, we might expect fairness and intelligence in carrying out and enforcing its provision. . . . The ability of the federal government to handle such matters is universally recognized, and the ability of local governments to combat the foe is suspected if not entirely scouted. . . . After all objections have been proposed and considered there remains the plain fact that the health and lives of millions of people should be among the first consideration of a government of and for all the people. If that can only be assured by a national law—and that appears evident—then there should be no more objection to such law."—*Birmingham Advertiser.*

"The hope is that the marine-hospital doctors can wholly eliminate the disease in New Orleans before frosts fall. If they can do that public sentiment will demand that interstate and international quarantine be placed in the hands of the federal government, thus doing away with the rivalry between states, with all commercialism, in a matter pertaining to health and life. The public health outranks trade at every step. The *Atlanta Journal* joins the increasing ranks of those who demand federal control of quarantine. Public sentiment is rapidly crystallizing in all the cotton states in a demand for federal control of quarantine."—*Birmingham Age-Herald.*

Florida.

"Pensacola asks that all seaport towns join her in this request, and also the request that congress pass a general quarantine law, and we see no objection whatever to such action if the nation is more successful and resourceful in its methods of operating such law than the states are."—*Pensacola News.*

"But precautions against the transmission of disease through the ordinary means of transportation, where they are necessary at all, must be subject to some general regulation, such as the federal officers alone can exercise."—Jacksonville *Times-Union,* from Philadelphia *Public Ledger.*

Georgia.

"One result of the yellow fever epidemic in Louisiana has been to convert many doubters and scoffers to a firm belief in a national quarantine system and government control in case of epidemic."—Savannah *Press.*

Louisiana.

"It is recognized that the desired uniformity of quarantine, that will be equally strong in all its parts, can be secured only through the federal government."—New Orleans *Democrat.*

"The ruinous and barbarous quarantines established by small communities against the world, the stoppage of United States mails and interstate traffic has resulted in a demand by the press of the country for a scientific and uniform quarantine service such as can be exercised and maintained only by the national health organization."—New Orleans *States.*

"The *Times* rejoices to know that the Louisiana Press Association, through its president, Charles E. Schwing, of Plaquemine, has begun an agitation looking to federal control of the quarantine regulations throughout the country. This paper, at the very beginning of the present yellow-fever epidemic, pointed out the senselessness of some of the quarantines established by various communities, and advocated placing this power of quarantine in the hands of the national government. In a subsequent article, the *Times* sought to emphasize the importance of uniform regulations among the states, pointing out that this could not be hoped for unless needed authority is vested in a supreme, independent and impartial department, such as the Public Health and Marine-Hospital Service of the United States."—Shreveport *Times.*

Missouri.

"Adequate and uniform precautions can not be taken unless under the direction of some central authority. This means that the whole scheme of quarantine at the great ports of the country should be under charge of the national authorities. . . . National quarantine is what the country wants for all its ports, and the coming Chattanooga conference ought to start a movement which will secure congressional legislation along that line."—St. Louis *Globe-Democrat.*

"Governor Blanchard expresses himself as being in favor of federal control of maritime quarantines and is also inclined toward such control of interstate quarantines."—From an interview with Governor Blanchard of Louisiana.

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"For the protection of the coast—seaports—I am in favor of vesting absolute authority in the federal government."—From an interview with Governor Vardaman.

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"As a matter of economy, then, as well as policy, desirability and safety, as explained yesterday, the entire South should take up this federal marine quarantine at once and use its best endeavors to induce the government to establish it at the earliest possible moment."—Memphis *Commercial-Appeal.*

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"There is a growing sentiment in the South, and all over the country as for that, for a federal quarantine law. The *News*, like a great many other newspapers in the South, has not jumped into this popular wave and demanded that a law be passed at the next session of congress establishing federal quarantine, but under sensible regulations we believe that such a plan would be best for the whole country."—Chattanooga *News.*

"In view of these facts, it is declared to be the sense of the Pensacola board of health 'that the quarantine of all seaport towns should be under the charge and control of the general government.' The *American* unqualifiedly indorses the conclusion of the Pensacolans. It has long been the opinion of this newspaper that the general government is the only power capable of handling quarantine matters in such emergencies."—Nashville *American.*

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"Indeed, now that the importance of a strict quarantine is appreciated, and to avoid those embarrassments which proceed from conflicts of state laws and quarantine, the whole matter of public health, as far as contagious or infectious diseases are concerned, may be turned over to the federal government, with the consent of the states."—Galveston *News* and Dallas *News.*

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"In no section of the United States is the principle of home rule as formulated in the doctrine of state rights so firmly established as in the South. Southern communities are tenacious of their local police powers. This being so, some surprise may be felt at the unanimity of the sentiment now prevalent throughout the portion of the South which has experienced or feared the yellow fever in epidemic form in favor of the surrender of their quarantine system to the federal government and of turning over the campaign against the mosquito to the Marine-Hospital Service."—New York *Times.*

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

STATUS OF GASTRECTOMY.

North Platte, Neb., Nov. 8, 1905.

To the Editor:—I would like to know through The Journal the present status of the operation of removing the whole stomach and whether the operation has ever been performed with satisfactory results. D. T. Quigley.

Answer.—The entire stomach has now been removed several times for carcinoma and patients have lived for from several months to two years, usually dying from metastatic carcinoma. Cases suitable for total removal of the stomach are, of course, rare. So far as the functional results are concerned after complete removal of the stomach, they have been satisfactory.

POSTGRADUATE COURSE IN BERLIN.

Worthington, Minn., Nov. 9, 1905.

To the Editor:—In The Journal, November 4, you gave a brief review of a post-graduate course to be given in Berlin next spring at the time of the dedication of the "Empress Friedrich House." Can you give me the time when these lectures will take place and the address of some one with whom I can correspond for further information? Henry Wiedow.

Answer.—The cycle of lectures is to be given during March and April, 1906. Professor R. Kutner is general secretary of the postgraduate movement (Zentralkomitee für das ärztliche Fortbildungswesen). His address is Elssholzstrasse 13, Berlin W. 30. He is editor of the journal issued by the central committee. His report for the five years since the committee was organized was recently published by J. S. Preuss, Berlin, in a book of 114 pages, giving the details and work accomplished by the postgraduate movement in Prussia.

METHYLENE BLUE TEST FOR TYPHOID URINE.

Parkersburg, W. Va., Oct. 28, 1905.

To the Editor: A friend of mine has called my attention to a new test of the urine, methylene blue, in typhoid fever. Will you give some information about it, where we can find literature concerning it, etc.? W. H. Sharp.

Answer.—The test is sometimes called Russo's test. The original paper is found in *Riforma Medica,* vol. xxi, No. 19, 1905. A partial abstract of the paper appears in The Journal, vol. xlv, 1905, p. 363. The technic of the test is very simple and is as follows: Four drops of a 1 to 1,000 aqueous solution of methylene blue are added to 4 or 5 c.c. of suspected urine. If the reaction is positive the mixture turns to an emerald or mint green hue. A light green or bluish green tint shows a negative reaction. The positive reaction is not affected by boiling the urine or the previous ingestion of such compounds as phenacetin, salol, quinin, calomel, etc. It is given as early as the second day of the disease and persists throughout its course. The mint green hue is first noted and the emerald green hue appears as the disease progresses. If the course is favorable the tone becomes more and more bluish, while if unfavorable the emerald tint persists. The chief point in favor of the test is its simplicity. It is also quite as reliable as the diazo reaction of Ehrlich. It is, however, given in cases of measles, smallpox, chronic and suppurative tuberculosis. It is not given in varioloid, varicella, scarlet fever, miliary tuberculosis, appendicitis and other conditions. The difficulty in the application of the test comes in the ability to recognize the various tints of green which may be present. With a little practice, however, the positive reaction may be readily detected. The fact that the test is not given in a miliary tuberculosis, appendicitis, varicella, etc., makes it invaluable as an aid in differential diagnosis.

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State Board of Health of Missouri, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

Board of Medical Examiners State of California, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

Board of Medical Examiners of Maryland, Baltimore, December 13-16. Secretary, J. McScott, Hagerstown.

Montana October Report.—Dr. W. C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, Oct. 3-5, 1905. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 24, of whom 16 passed and 8 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Syracuse University	(1902)	80
Kentucky School of Medicine	(1902)	77.7
University of Tennessee	(1901)	75.1
University of Minnesota	(1894) 77.6; (1904) 80, 81.6	84.4
Barnes Med. Coll.	(1905)	75.1
Hahnemann Med. Coll., Chicago	(1898)	82.7
American Medical Missionary, Coll., Chicago	(1903)	79.1
University of Vermont	(1903)	75.8
Med. Coll. of Virginia	(1904)	76.9
Med. Coll. of Ohio	(1897)	82
Jefferson Med. Coll.	(1905)	82.7
University of Boston	(1905)	78.7
Rush Med. Coll.	(1903)	77.4

FAILED.

College.	Year. Grad.	Per Cent.
Hamline University	(1903)	41.3
Rush Med. Coll.	(1900)	64
Illinois Med. Coll.	(1898)	68.5
University of Nebraska	(1905)	55.1
Missouri Med. Coll.	(1878) 26.5; (1884)	50.4
University of Vermont	(1895)	59.4
American Med. Miss. Coll., Chicago	(1905)	71.5

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 11:

Hess, Louis T., asst.-surgeon, ordered to Fort Lawton, Wash., for duty.

Collins, C. C., asst.-surgeon, ordered to Fort Walla Walla, Wash.

Pyles, Will L., asst.-surgeon, ordered to Jefferson Barracks, Mo., for duty.

Rafferty, Ogden, surg., granted two months' leave of absence.

Reynolds, Chas. R., asst.-surgeon, assigned to duty as surgeon on transport *Logan*, next voyage to Manila, where, on arrival, he will report to commanding general, Philippines Division, for assignment to duty.

Wadhams, S. H., asst.-surg., granted 30 days' leave of absence, with permission to apply for 30 days' extension.

Adair, Geo. W., asst.-surgeon general, granted 15 days' leave of absence.

DeWitt, Wallace, asst.-surgeon, granted 30 days' leave of absence.

Frick, Euclid B., surgeon, ordered to assume temporary charge of chief surgeon's office, Department of Dakota, during the absence of Col. Adair, on leave of absence.

Edwards, Jas. F., asst.-surgeon, granted leave of absence from November 17th to and including December 31, 1905. His resignation as an officer of the army has been accepted by the President, to take effect December 31.

Purnell, Julius M., contract surgeon, ordered to Alcatraz Island, Cal., for temporary duty.

Barney, Fred M., contract surgeon, arrived at Fisherman's Point, Cuba, for duty.

Daywalt, George W., contract surgeon, left Fort St. Philip, La., on sick leave for seven days.

Waddell, Ralph W., dental surgeon, arrived at Fort Crook, Neb., for duty.

Boak, S. Davis, dental surgeon, left Fort Washington, Md., on leave of absence.

Carpenter, Alden, dental surgeon, arrived at Boise Barracks, Idaho, for duty.

Ames, Roger P., contract surgeon, arrived at Fort Saint Philip, La., for duty.

Jones, George H., contract surgeon, returned to duty at Fort Fremont, S. C., from leave of absence.

Byars, Caspar R., contract surgeon, returned to Fort Sam Houston, Texas, from duty at Fort Sill, Okla.

Dickenson, Clarence F., contract surgeon, left Fort Logan, Colo., and arrived at Fort Douglas, Utah, to accompany 22d Battery, Field Artillery, on overland march to Fort Riley, Kans.

Slater, Ernest F., contract surgeon, arrived at Washington Barracks, D. C., for temporary duty.

Adair, George F., contract surgeon, left Fort Wadsworth, N. Y., on leave of absence for fifteen days.

Navy Changes.

Changes in the Medical Corps U. S. Navy, for the week ending November 11:

Riggs, C. E., surgeon, detached from the *Dolphin* and ordered home to wait orders.

Spratling, L. W., surgeon, detached from the naval station, New Orleans, and ordered to the navy yard, League Island, Pa., November 15.

Thompson E., surgeon, ordered to the navy yard, Charleston, S. C.

McDonald, P. E., P. A. surgeon, detached from the naval dispensary, Washington, D. C., and ordered to the *Dolphin*.

Plummer, R. W., P. A. surgeon, detached from the navy yard, Charleston, S. C., and ordered to the naval recruiting rendezvous, Kansas City, Mo., November 15.

Riggs, R. E., asst.-surgeon, ordered to the *Franklin*.

Michaels, R. H., asst.-surgeon, detached from the naval recruiting rendezvous, Kansas City, Mo., and ordered home to wait orders.

Diehl, O., surgeon, detached from the *Baltimore* and ordered home to wait orders.

Spear, R., surgeon, ordered to the Baltimore.

Pryor, J. C., surgeon, detached from the naval medical school, Washington, D. C., and ordered to the naval dispensary, Washington, D. C.

Brownell, C. de W., surgeon, ordered to the naval recruiting rendezvous, Providence, R. I.

Richards, T. W., surgeon, ordered to the naval hospital, Norfolk, Va.

Thompson, J. C., surgeon, detached from the naval recruiting rendezvous, Providence, R. I., and ordered to the Asiatic station, via the *Lawton*, sailing December 1.

Murphy, J. F., asst.-surgeon, detached from the naval recruiting rendezvous, Buffalo, N. Y., and ordered to Washington, D. C., December 4, for examination for promotion, and then to wait orders.

Guthrie, J. A., asst.-surgeon, detached from the navy yard, League Island, Pa., and ordered to the naval recruiting rendezvous, Buffalo, N. Y.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 8.

Lavinder, C. H., P. A. surgeon, granted leave of absence for one month from November 6.

McMullen, John, P. A. surgeon, granted leave of absence for one month from November 7.

Currie, D. H., P. A. surgeon, relieved from special temporary duty in New Orleans and from temporary duty in San Francisco, and directed to proceed to San Francisco quarantine station for duty.

Amesse, J. W., P. A. surgeon, relieved from special temporary duty in New Orleans and from duty in Seattle, Wash., and directed to proceed to Ellis Island, N. Y., reporting to medical officer in command for duty.

Berry, T. D., P. A. surgeon, granted leave of absence for one month to take effect from date of being relieved in New Orleans.

Rucker, W. C., assistant surgeon, granted leave of absence for seven days.

Collins, Geo. L., assistant surgeon, leave of absence granted Assistant Surgeon Collins for sixteen days from October 31, 1905, amended to read sixteen days from November 1.

Ashford, F. A., asst.-surgeon, granted leave of absence for five days from November 4, under provisions of paragraph 191, regulations.

Mullan, E. H., asst.-surgeon, granted leave of absence for five days from November 2.

Mullan, E. H., asst.-surgeon, granted extension of leave of absence for five days, from November 7.

de Valin, Hugh, asst.-surgeon, relieved from special temporary duty at New Orleans and directed to proceed to Baltimore, reporting to medical officer in command for duty and assignment to quarters.

Alexander, E., acting asst.-surgeon, granted leave of absence for six days from November 10.

Cleaves, F. H., acting asst.-surgeon, granted leave of absence for five days, beginning November 6.

Goldsborough, B. W., acting assistant surgeon, granted leave absence for two days from November 4.

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Board of Medical Examiners State of California, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

Board of Medical Examiners of Maryland, Baltimore, December 13-16. Secretary, J. McScott, Hagerstown.

Montana October Report.—Dr. W. C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, Oct. 3-5, 1905. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 24, of whom 16 passed and 8 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Syracuse University	(1902)	80
Kentucky School of Medicine	(1902)	77.7
University of Tennessee	(1901)	75.1
University of Minnesota	(1894) 77.6; (1904) 80, 81.6	84.4
Barnes Med. Coll.	(1905)	75.1
[illegible] Chicago	(1898)	82.7
[illegible] onary, Coll., Chicago	(1903)	79.1
[illegible]	(1903)	75.8
[illegible] Coll. of Virginia	(1904)	76.9
Med. Coll. of Ohio	(1897)	82
Jefferson Med. Coll.	(1905)	82.7
University of Boston	(1905)	78.7
Rush Med. Coll.	(1903)	77.4
FAILED.		
Hamline University	(1903)	41.3
Rush Med. Coll.	(1900)	64
Illinois Med. Coll.	(1898)	68.5
University of Nebraska	(1905)	55.1
Missouri Med. Coll.	(1878) 26.5; (1884)	50.4
University of Vermont	(1895)	59.4
American Med. Miss. Coll., Chicago	(1905)	71.5

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 11:

Hess, Louis T., asst.-surgeon, ordered to Fort Lawton, Wash., for duty.

Collins, C. C., asst.-surgeon, ordered to Fort Walla Walla, Wash.

Pyles, Will L., asst.-surgeon, ordered to Jefferson Barracks, Mo., for duty.

Rafferty, Ogden, surg., granted two months' leave of absence.

Reynolds, Chas. R., asst.-surgeon, assigned to duty as surgeon on transport *Logan*, next voyage to Manila, where, on arrival, he will report to commanding general, Philippines Division, for assignment to duty.

Wadhams, S. H., asst.-surg., granted 30 days' leave of absence, with permission to apply for 30 days' extension.

Adair, Geo. W., asst.-surgeon general, granted 15 days' leave of absence.

DeWitt, Wallace, asst.-surgeon, granted 30 days' leave of absence.

Frick, Euclid B., surgeon, ordered to assume temporary charge of chief surgeon's office, Department of Dakota, during the absence of Col. Adair, on leave of absence.

Edwards, Jas. F., asst.-surgeon, granted leave of absence from November 17th to and including December 31, 1905. His resignation as an officer of the army has been accepted by the President, to take effect December 31.

Purnell, Julius M., contract surgeon, ordered to Alcatraz Island, Cal., for temporary duty.

Barney, Fred M., contract surgeon, arrived at Fisherman's Point, Cuba, for duty.

Daywalt, George W., contract surgeon, left Fort St. Philip, La., on sick leave for seven days.

Waddell, Ralph W., dental surgeon, arrived at Fort Crook, Neb., for duty.

Boak, S. Davis, dental surgeon, left Fort Washington, Md., on leave of absence.

Carpenter, Alden, dental surgeon, arrived at Boise Barracks, Idaho, for duty.

Ames, Roger P., contract surgeon, arrived at Fort Saint Philip, La., for duty.

Jones, George H., contract surgeon, returned to duty at Fort Fremont, S. C., from leave of absence.

Byars, Caspar R., contract surgeon, returned to Fort Sam Houston, Texas, from duty at Fort Sill, Okla.

Dickenson, Clarence F., contract surgeon, left Fort Logan, Colo., and arrived at Fort Douglas, Utah, to accompany 22d Battery, Field Artillery, on overland march to Fort Riley, Kans.

Slater, Ernest F., contract surgeon, arrived at Washington Barracks, D. C., for temporary duty.

Adair, George F., contract surgeon, left Fort Wadsworth, N. Y., on leave of absence for fifteen days.

Navy Changes.

Changes in the Medical Corps U. S. Navy, for the week ending November 11:

Riggs, C. E., surgeon, detached from the *Dolphin* and ordered home to wait orders.

Spratling, L. W., surgeon, detached from the naval station, New Orleans, and ordered to the navy yard, League Island, Pa., November 15.

Thompson E., surgeon, ordered to the navy yard, Charleston, S. C.

McDonald, P. E., P. A. surgeon, detached from the naval dispensary, Washington, D. C., and ordered to the *Dolphin*.

Plummer, R. W., P. A. surgeon, detached from the navy yard, Charleston, S. C., and ordered to the naval recruiting rendezvous, Kansas City, Mo., November 15.

Riggs, R. E., asst.-surgeon, ordered to the *Franklin*.

Michaels, R. H., asst.-surgeon, detached from the naval recruiting rendezvous, Kansas City, Mo., and ordered home to wait orders.

Diehl, O., surgeon, detached from the *Baltimore* and ordered home to wait orders.

Spear, R., surgeon, ordered to the Baltimore.

Pryor, J. C., surgeon, detached from the naval medical school, Washington, D. C., and ordered to the naval dispensary, Washington, D. C.

Brownell, C. de W., surgeon, ordered to the naval recruiting rendezvous, Providence, R. I.

Richards, T. W., surgeon, ordered to the naval hospital, Norfolk, Va.

Thompson, J. C., surgeon, detached from the naval recruiting rendezvous, Providence, R. I., and ordered to the Asiatic station, [illegible] 'ling December 1.

[illegible] st.-surgeon, detached from the naval recruiting [illegible], N. Y., and ordered to Washington, D. C., December 4, for examination for promotion, and then to wait orders.

Guthrie, J. A., asst.-surgeon, detached from the navy yard, League Island, Pa., and ordered to the naval recruiting rendezvous, Buffalo, N. Y.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 8.

Lavinder, C. H., P. A. surgeon, granted leave of absence for one month from November 6.

McMullen, John, P. A. surgeon, granted leave of absence for one month from November 7.

Currie, D. H., P. A. surgeon, relieved from special temporary duty in New Orleans and from temporary duty in San Francisco, and directed to proceed to San Francisco quarantine station for duty.

Amesse, J. W., P. A. surgeon, relieved from special temporary duty in New Orleans and from duty in Seattle, Wash., and directed to proceed to Ellis Island, N. Y., reporting to medical officer in command for duty.

Berry, T. D., P. A. surgeon, granted leave of absence for one month to take effect from date of being relieved in New Orleans.

Rucker, W. C., assistant surgeon, granted leave of absence for seven days.

Collins, Geo. L., assistant surgeon, leave of absence granted Assistant Surgeon Collins for sixteen days from October 31, 1905, amended to read sixteen days from November 1.

Ashford, F. A., asst.-surgeon, granted leave of absence for five days from November 4, under provisions of paragraph 191, regulations.

Mullan, E. H., asst.-surgeon, granted leave of absence for five days from November 2.

Mullan, E. H., asst.-surgeon, granted extension of leave of absence for five days, from November 7.

de Valin, Hugh, asst.-surgeon, relieved from special temporary duty at New Orleans and directed to proceed to Baltimore, reporting to medical officer in command for duty and assignment to quarters.

Alexander, E., acting asst.-surgeon, granted leave of absence for six days from November 10.

Cleaves, F. H., acting asst.-surgeon, granted leave of absence for five days, beginning November 6.

Goldsborough, B. W., acting assistant surgeon, granted leave of absence for two days from November 4.

Stevenson, J. W., acting assistant surgeon, granted leave of absence for thirty days from November 6.

Tappan, J. W., acting assist.-surgeon, granted seven days leave of absence from November 6, under provisions of paragraph 191, regulations.

McDonald, Jeannette, medical inspector, granted leave of absence for eighteen days, from October 23.

Stearns, W. L., pharmacist, granted three days leave of absence effective from date of being relieved.

Goodman, F. S., pharmacist, granted leave of absence for twenty days from December 12.

Thurston, E. J., pharmacist, granted leave of absence for fifteen days, from November 10.

Spangler, L. C., pharmacist, granted leave of absence for thirty days from November 5.

BOARD CONVENED.

A board of officers was convened to meet at the Bureau on call of chairman for physical examination of Chief Engineer H. F. Schoenborn, R. C. S. Assistant Surgeon-General W. J. Pettus, chairman; Asst.-Surgeon H. McG. Robertson, Recorder.

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The following cases of smallpox, yellow fever, cholera and plague, have been reported to the surgeon general, Public Health and Marine-Hospital Service, during the week ended November 13:

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Louisiana: New Orleans, Oct. 21-28, 5 cases.
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Ohio: Springfield, Oct. 26-Nov. 3, 1 case.

SMALLPOX—FOREIGN.

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Ecuador: Guayaquil, Oct. 3-17, 12 deaths.
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Ecuador: Guayaquil, Oct. 10-17, 1 death.
Honduras: Choloma, Oct. 17-24; 3 cases, 1 death; San Pedro, 2 cases.
Mexico: Coatzacoalcos, Oct. 22-28, 1 case; Omealca, 4 cases, 4 deaths; Tezonapa, Oct. 22-28, 1 case, 1 death; Tierra Blanca, 1 case, 1 death; Tuxtepec, 7 cases, 6 deaths; Vera Cruz, 2 cases.
Panama: Bocas del Toro, Oct. 14-21, 2 cases.
Venezuela: Maracaibo, Aug. 20-27, 1 case, 1 death.

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Zanzibar: Zanzibar, Oct. 28, present.

Medical Organization

Public Lecture on Disease and Hygiene.

The Oakland (Cal.) *Enquirer* inquires: "The Chicago Medical Society is offering a series of free public lectures. Why are such things denied the people of this city? Are not physicians of Oakland as able, progressive and public spirited as those of Chicago?" The people of every city are entitled to such lectures. The county medical society has the machinery to provide them.

California and Texas.

Dr. McCormack's Western Trip.—Dr. McCormack continues his western tour. Reports from *California* indicate a varying degree of response on the part of the profession, but agree that a very great deal of good has been accomplished. October 24 Dr. McCormack addressed a joint meeting of the Santa Barbara, Monterey and San Luis Obispo (Cal.) county medical societies. At Pasadena, October 26, he addressed a meeting of the Pasadena branch of the Los Angeles County Medical Society. From California Dr. McCormack entered Texas, addressing meetings at El Paso, October 30, and at San Antonio on November 1. The latter was the semi-annual meeting of the Fifth Councilor District Medical Society, and the program included papers by Dr. John B. Deaver and Dr. Joseph Price of Philadelphia and Dr. Lewis McMurtry of Louisville. There was a two days' session and over one hundred members were in attendance. Dr. McCormack addressed the physicians of Austin on November 3, and was to have addressed the Jefferson County Medical Society on November 4, but a delay caused cancellation of that engagement. He met with the Galveston County Medical Society November 6, and on the following day addressed the Harris County Medical Society at Houston.

Society Proceedings

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American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

AMERICAN ACADEMY OF MEDICINE.

Thirtieth Annual Meeting, held in Chicago, Nov. 9-10, 1905.

The President, Dr. Winfield S. Hall, Chicago, in the Chair.

Report of Committee on Laws Regulating the Practice of Medicine.

Dr. Charles McIntire, Easton, Pa., secretary, presented the details of the changes in the laws and the statistical part of the report in printed form. The academy began the study of laws relating to the practice of medicine in 1880, and the report gives some of the results of this 25 years' investigation. Some of the imperfections of these laws are: 1. The lack of uniformity. 2. The relation of vagarious practitioners. Each state, by special legislation, by exemption in general legislation, or by sufferance, permits certain classes of people to perform the office of a physician without the tests required by the state for doctors in medicine. The report suggests that the general practice acts should recognize this by providing for "limited licentiates in medicine," who would be examined only on the elementary subjects. As these laws are to protect the people, they should not take cognizance of any special system. Each one should have liberty to treat disease after his own sweet will, but only after he has demonstrated to the state officials that he possesses such knowledge as the legislature has decided is necessary for the proper protection of the citizens. 3. The laws do not accept the statement of the medical college as final. This has been thought to have been necessary because some medical schools have been found not to have acted in good faith. The result is a somewhat mechanical statement of requirements. Time will right this, and the future laws will accept a diploma without going behind the returns. 4. Another weakness is the provisions for the transfer of a legal practitioner from one state to another. The report suggests that authority be given to each board to accept the license of another state at its value and to make such additional tests as may be required. 5. The laws too frequently fail to protect those who are licensed. They should provide for some official whose duty it is to search out and prosecute the unlicensed and those who are abusing their licenses. The report favored having osteopaths represented on state medical examining boards.

DISCUSSION.

Dr. Carl H. von Klein, Chicago, referred to the gradual evolution that is taking place toward higher medical education. America is not behind in this progressive movement. In some medical schools the courses of instruction are equal to those established in foreign countries, but the preliminary education of American medical students has not reached as high a standard in this as it has in foreign countries.

Dr. Leartus Connor, Detroit, called attention to the origin of medical laws, who originated them, and for what purpose. He said there are two parties involved—*first*, the people, and, *second*, the physicians themselves. Physicians can not enact laws themselves, but they join with the people in accomplishing this. But physicians have been the prime factors in establishing these laws, sometimes with a selfish purpose in view. He thinks that if physicians had looked disinterestedly after the interests of the people first, rather than their own interests, there would have been no need of any medical laws.

Dr. B. D. Harison, Sault Ste. Marie, Mich., did not agree with the recommendation in the report that osteopaths should be admitted as members of state medical examining boards, and recognized as a part of the medical profession. The Supreme Court of Kentucky holds that the osteopath is a masseur. It is held by the Supreme Court of another state that osteopathy comes within the field of medicine. He referred to the Michigan law regarding osteopathy and osteopaths, and said it is only a matter of time when osteopaths will be driven out of that state. He favors letting them alone, as they will work out their own salvation or damnation.

Dr. R. O. Beard, Minneapolis, believes that if we raise the standard of the medical profession we will not need medical legislation half so much as it is needed now. It is a question of the "survival of the fittest," and he thinks it will not be very long, after the medical profession has attained that standard of educational and professional fitness, before the bogus colleges will be relegated to the position of barbers, plumbers, etc. The legislative side of the question is more difficult to deal with, as physicians are not expert and successful in securing the enactment of laws.

Dr. John M. Dodson, Chicago, said that, urged by the medical profession, some literary schools have arranged their work so as to prepare young men better for the study of medicine. Some institutions of general learning are now pursuing the plan of supplying courses in chemistry, physics, general biology, and others in human anatomy, histology, bacteriology and embryology. The work they are doing should be recognized for what it is worth and not be arbitrarily rejected. He believes that the position which the Minnesota State Board of Medical Examiners has taken, in regard to examining graduates from other states than Minnesota, is absolutely untenable from a legal point of view, inasmuch as the Minnesota law does not say that a student shall have spent four years in a medical college, but says the student must have spent four years in the study of medicine in a recognized college. He thinks the whole question resolves itself into an interpretation of the law by the board, which is applied to the college instead of the individual.

Report of the Committee to Tabulate the Value of the First Degree.

Dr. Donly C. Hawley, Burlington, said that the committee found it necessary to make a prefatory study before attempting the definite work assigned to it. This study included two questions: 1. What is a college course intended to do? 2. What are the elements which, when compounded, make the physician? 1. A college is a factory where the value of the finished product depends on the character of the raw material furnished. It also depends on the process employed; but no process will cause a transmutation of metals. Unless the gold be in the ore, none can be found in the end-products. 2. To obtain material on which to base the answer to this question, a circular letter was sent to a large number of physicians, medical teachers and others, and college presidents. The replies received were studied by the committee, and are also included in the report as an appendix.

The questions were: 1. What is the character to be desired of the neophyte in medicine? To what extent can it be developed by educational processes? And what class of studies is adapted to bring it about? 2. What mental discipline is essential that a student may profitably benefit by a medical course? 3. What facts should be in possession of the intending medical student before he enters on his medical studies? Can the acquisition of these facts be used to train the character and the mind?

It is admitted that sometimes the man with a limited training outstrips his fellow with greater scholastic advantage. There must be something underlying which educational processes can not supply. He must be self-reliant, able to arrive at fair conclusions based on accurate observation, and to follow such conclusions with confidence. He must also have a bull-dog tenacity, a love of seeking scientific facts apart from preconceived theories, and sympathy with mankind. These are foundations, and every trait which will make an honorable man and cultured gentleman will be helpful. Having a student of this type, what should be the mental discipline to produce the best result? He should be taught to observe accurately and to interpret honestly the results of observation, to know how to study, to think logically, and train his memory to be of ready service. He should be educated, first, for the man, then for the physician. And, on the whole, the course in colleges leading to the A.B. degree seems to be fitted for this better than any other course. Besides, the mind so furnished should be in possession of certain facts to be used directly in the prosecution of medical studies. These include a knowledge of elementary physics, that it may understand its application in physiology and elsewhere; such a knowledge of chemistry as to make it necessary to teach only medical chemistry in a medical course; and general biology that the student can understand the study of life processes in man in an intelligent manner.

DISCUSSION.

Prof. C. S. Losey, Northwestern University, Chicago, emphasized that part of the report of the committee that students preparing for medicine should be advised to elect or to select studies in their college course, so that they may have two or three years of work in chemistry and biology, and that they be advised to take up such studies as histology, embryology and comparative anatomy. Some institutions are pursuing such a course at the present time.

Dr. Leartus Connor, Detroit, said a four-year course of study in medicine will give a man a broader outlook; it will give him imagination to look forward to what he ought to become; to have a broad sympathetic outlook of those with whom he has to do. The service of the physician reaches far beyond the peddling of pills or the opening of abdomens. The practice of medicine requires a vigorous body, and a college course ought to show the student what sort of body he has; whether he can endure the long strain of days and nights, of anxious thought about critical cases, etc. A man can not go through college and mingle with others without becoming a thinking machine, more or less. The man who has not got a good imagination, who can not see his operation before him with his eyes shut, so to speak, is not an educated physician. He is a mechanism and not a doctor.

Dr. Carl H. von Klein, Chicago, emphasized the value of an academic training preliminary to the study of medicine. The man who is academically well trained, other things being equal, makes a good physician. A man should not be discouraged because he fails in his first examination, as there are notable instances of men who failed in their first examinations, yet subsequently became great. Among others, he instanced Bismarck.

Prof. H. B. Ward, University of Nebraska, said that the heterogeneous character of our educational system in the United States as a name means nothing; that there must be some other form of test applied, some other measure than the mere name of an institution, if we expect to get anything like uniformity in the preliminary preparation of students before their entrance on the study of medicine. Those who have not followed the development of modern college education are not aware of the extent to which, even in small colleges, the elective system has been introduced. Formerly a college course meant in the same section of country, or in a group of affiliated colleges, more or less, the same training; not only four years, but four years applied relatively to certain lines, with some philosophy, some mathematics, some science, some literature, and some history. The modern college has made a departure from this. Even the most conservative colleges have introduced different courses which go under different names, but which in many, if not in all, cases lead to the same degree, and in general the degrees of B.S. and B.A. are apparently on a par with reference to future training. He deplored the fact that there is not a series of recognized studies leading

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The President, Dr. Winfield S. Hall, Chicago, in the Chair.

Report of Committee on Laws Regulating the Practice of Medicine.

Dr. Charles McIntire, Easton, Pa., secretary, presented *the details of the changes in the laws and the statistical part* of the report in printed form. The academy began the study of laws relating to the practice of medicine in 1880, and the report gives some of the results of this 25 years' investigation. Some of the imperfections of these laws are: 1. The lack of uniformity. 2. The relation of vagarious practitioners. Each state, by special legislation, by exemption in general legislation, or by sufferance, permits certain classes of people to perform the office of a physician without the tests required by the state for doctors in medicine. The report suggests that the general practice acts should recognize this by providing for "limited licentiates in medicine," who would be examined only on the elementary subjects. As these laws are to protect the people, they should not take cognizance of any special system. Each one should have liberty to treat disease after his own sweet will, but only after he has demonstrated to the state officials that he possesses such knowledge as the legislature has decided is necessary for the proper protection of the citizens. 3. The laws do not accept the statement of the medical college as final. This has been thought to have been necessary because some medical schools have been found not to have acted in good faith. The result is a somewhat mechanical statement of requirements. Time will right this, and the future laws will accept a diploma without going behind the returns. 4. Another weakness is the provisions for the transfer of a legal practitioner from one state to another. The report suggests that authority be given to each board to accept the license of another state at its value and to make such additional tests as may be required. 5. The laws too frequently fail to protect those who are licensed. They should provide for some official whose duty it is to search out and prosecute the unlicensed and those who are abusing their licenses. The report favored having osteopaths represented on state medical examining boards.

DISCUSSION.

Dr. Carl H. von Klein, Chicago, referred to the gradual evolution that is taking place toward higher medical education. America is not behind in this progressive movement. In some medical schools the courses of instruction are equal to those established in foreign countries, but the preliminary education of American medical students has not reached as high a standard in this as it has in foreign countries.

Dr. Leartus Connor, Detroit, called attention to the origin of medical laws, who originated them, and for what purpose. He said there are two parties involved—*first*, the people, and, *second*, the physicians themselves. Physicians can not enact laws themselves, but they join with the people in accomplishing this. But physicians have been the prime factors in establishing these laws, sometimes with a selfish purpose in view. He thinks that if physicians had looked disinterestedly after the interests of the people first, rather than their own interests, there would have been no need of any medical laws.

Dr. B. D. Harison, Sault Ste. Marie, Mich., did not agree with the recommendation in the report that osteopaths should be admitted as members of state medical examining boards, and recognized as a part of the medical profession. The Supreme Court of Kentucky holds that the osteopath is a masseur. It is held by the Supreme Court of another state that osteopathy comes within the field of medicine. He referred to the Michigan law regarding osteopathy and osteopaths, and said it is only a matter of time when osteopaths will be driven out of that state. He favors letting them alone, as they will work out their own salvation or damnation.

Dr. R. O. Beard, Minneapolis, believes that if we raise the standard of the medical profession we will not need medical legislation half so much as it is needed now. It is a question of the "survival of the fittest," and he thinks it will not be very long, after the medical profession has attained that standard of educational and professional fitness, before the bogus colleges will be relegated to the position of barbers, plumbers, etc. The legislative side of the question is more difficult to deal with, as physicians are not expert and successful in securing the enactment of laws.

Dr. John M. Dodson, Chicago, said that, urged by the medical profession, some literary schools have arranged their work so as to prepare young men better for the study of medicine. Some institutions of general learning are now pursuing the plan of supplying courses in chemistry, physics, general biology, and others in human anatomy, histology, bacteriology and embryology. The work they are doing should be recognized for what it is worth and not be arbitrarily rejected. He believes that the position which the Minnesota State Board of Medical Examiners has taken, in regard to examining graduates from other states than Minnesota, is absolutely untenable from a legal point of view, inasmuch as the Minnesota law does not say that a student shall have spent four years in a medical college, but says the student must have spent four years in the study of medicine in a recognized college. He thinks the whole question resolves itself into an interpretation of the law by the board, which is applied to the college instead of the individual.

Report of the Committee to Tabulate the Value of the First Degree.

Dr. Donly C. Hawley, Burlington, said that the committee found it necessary to make a prefatory study before attempting the definite work assigned to it. This study included two questions: 1. What is a college course intended to do? 2. What are the elements which, when compounded, make the physician? 1. A college is a factory where the value of the finished product depends on the character of the raw material furnished. It also depends on the process employed; but no process will cause a transmutation of metals. Unless the gold be in the ore, none can be found in the end-products. 2. To obtain material on which to base the answer to this question, a circular letter was sent to a large number of physicians, medical teachers and others, and college presidents. The replies received were studied by the committee, and are also included in the report as an appendix.

The questions were: 1. What is the character to be desired of the neophyte in medicine? To what extent can it be developed by educational processes? And what class of studies is adapted to bring it about? 2. What mental discipline is essential that a student may profitably benefit by a medical course? 3. What facts should be in possession of the intending medical student before he enters on his medical studies? Can the acquisition of these facts be used to train the character and the mind?

It is admitted that sometimes the man with a limited training outstrips his fellow with greater scholastic advantage. There must be something underlying which educational processes can not supply. He must be self-reliant, able to arrive at fair conclusions based on accurate observation, and to follow such conclusions with confidence. He must also have a bull-dog tenacity, a love of seeking scientific facts apart from preconceived theories, and sympathy with mankind. These are foundations, and every trait which will make an honorable man and cultured gentleman will be helpful. Having a student of this type, what should be the mental discipline to produce the best result? He should be taught to observe accurately and to interpret honestly the results of observation, to know how to study, to think logically, and train his memory to be of ready service. He should be educated, first, for the man, then for the physician. And, on the whole, the course in colleges leading to the A.B. degree seems to be fitted for this better than any other course. Besides, the mind so furnished should be in possession of certain facts to be used directly in the prosecution of medical studies. These include a knowledge of elementary physics, that it may understand its application in physiology and elsewhere; such a knowledge of chemistry as to make it necessary to teach only medical chemistry in a medical course; and general biology that the student can understand the study of life processes in man in an intelligent manner.

DISCUSSION.

Prof. C. S. Losey, Northwestern University, Chicago, emphasized that part of the report of the committee that students preparing for medicine should be advised to elect or to select studies in their college course, so that they may have two or three years of work in chemistry and biology, and that they be advised to take up such studies as histology, embryology and comparative anatomy. Some institutions are pursuing such a course at the present time.

Dr. Leartus Connor, Detroit, said a four-year course of study in medicine will give a man a broader outlook; it will give him imagination to look forward to what he ought to become; to have a broad sympathetic outlook of those with whom he has to do. The service of the physician reaches far beyond the peddling of pills or the opening of abdomens. The practice of medicine requires a vigorous body, and a college course ought to show the student what sort of body he has; whether he can endure the long strain of days and nights, of anxious thought about critical cases, etc. A man can not go through college and mingle with others without becoming a thinking machine, more or less. The man who has not got a good imagination, who can not see his operation before him with his eyes shut, so to speak, is not an educated physician. He is a mechanism and not a doctor.

Dr. Carl H. von Klein, Chicago, emphasized the value of an academic training preliminary to the study of medicine. The man who is academically well trained, other things being equal, makes a good physician. A man should not be discouraged because he fails in his first examination, as there are notable instances of men who failed in their first examinations, yet subsequently became great. Among others, he instanced Bismarck.

Prof. H. B. Ward, University of Nebraska, said that the heterogeneous character of our educational system in the United States as a name means nothing; that there must be some other form of test applied, some other measure than the mere name of an institution, if we expect to get anything like uniformity in the preliminary preparation of students before their entrance on the study of medicine. Those who have not followed the development of modern college education are not aware of the extent to which, even in small colleges, the elective system has been introduced. Formerly a college course meant in the same section of country, or in a group of affiliated colleges, more or less, the same training; not only four years, but four years applied relatively to certain lines, with some philosophy, some mathematics, some science, some literature, and some history. The modern college has made a departure from this. Even the most conservative colleges have introduced different courses which go under different names, but which in many, if not in all, cases lead to the same degree, and in general the degrees of B.S. and B.A. are apparently on a par with reference to future training. He deplored the fact that there is not a series of recognized studies leading toward medicine as there is toward theology, law and other vocations.

PROF. JAMES G. NEEDHAM, Lake Forest University, favors teaching general biology in colleges, letting the medical schools teach it as it applies to the human body. He would have the colleges teach general embryology and vertebrate embryology, but let the medical schools teach those aspects of embryology that apply to the human being and to the practice of medicine. The same should be done in other subjects. These colleges can teach certain branches to greater advantage than they are now being taught in medical schools.

DR. BURTON D. MYERS, University of Indiana, said he has been studying seriously the best means of developing and furnishing a preliminary education. The aim of those in authority in this university is not to establish another medical school, but a medical department of the better kind, and they are ready to require four years of collegiate work, if they are convinced that this would be essential. The man who enters on the practice of medicine ought to be able to use the English language correctly, to express himself clearly and concisely. He ought to be able to read French and German.

The report was further discussed by Drs. Daniel T. Nelson, John M. Dodson, Professor Halsey, R. O. Beard, and B. D. Harison.

The committee asked that the report be referred to the council for action and recommendation as to whether the investigation shall be continued, and it was so done.

Report of the Committee on Teaching Hygiene.

DR. HELEN C. PUTNAM, Providence, R. I., visited over seventy classes in domestic science in 18 different cities and about as many in nature study, in elementary, high, normal and special public schools. The actual practice of principles of hygiene in domestic science and the actual observation of biologic details and physical phenomena in the teaching of the sciences (called nature study in elementary schools) were briefly compared with the method of memorizing from books and talks. The committee reserved its recommendations until it has reported on the other direct methods of teaching hygiene in the public schools.

Altruism in the Medical Profession.

DR. WINFIELD S. HALL, Chicago, stated that the first law of life is the preservation of self; but the second and higher law is the preservation of others. He summed up the biologist's interpretation of egoism and altruism in the following general principles: (1) All the activities of living organisms may be classified as egoistic, those that nourish and protect the individual; and altruistic, those that maintain and protect the race. (2) Altruistic activities invariably involve on the part of the individual sacrifice of self for the good of the race. Every profession, every occupation, in life affords its opportunities for altruism, but he who chooses the medical profession must do so with the knowledge that to be a useful and successful member of that profession he must subordinate self to the welfare of his fellow-men. The true physician is solicitous, above all, for the patient's welfare, and not only ministers to his immediate needs, but seeks so to instruct him that, when restored to health, he may, by right living, maintain it continuously, thus needing no further professional service from his physician. This is a manifestation of altruism so nearly universal in the medical profession that the physician loses caste in his profession if he fails in the discharge of this obligation. A higher degree of altruism is manifested by those who sacrifice a gain commensurate with their abilities in order to inspire, guide and uplift the youth. The work of the true teacher is always altruistic. The teacher must always take a part of his remuneration in the satisfaction which he derives from the molding of a character and in the joy which he experiences in the inspiration of lofty ambition.

The higher the order of altruism, the fewer there are who attain it. Voluntary sacrifice of life in order that other lives may be saved is the highest order of altruism. This height of sacrifice has been attained by a comparatively small number only; a number, however, that should include the names of many unknown heroes who have gone to their death while ministering to the sick in plague-stricken places, leaving no record of their heroism. Organized for the purpose of advancing the standards of medical education, of advancing the boundaries of medical science, of elevating the profession and of preventing disease, the work of the American Academy of Medicine has been altruistic from the time of its organization to the present. The field of its activities is ever widening and always along altruistic lines. If he were asked to make a general recommendation, it would be that the academy accept as its field of endeavor the altruistic responsibilities and activities of the medical profession, definitely outlining a program of research to be prosecuted along various lines, such as education, school hygiene, state medicine, ethics, etc. This research should be followed by carefully directed and persistent effort to accomplish that which the research reveals to be advantageous to society.

DR. CASEY A. WOOD, Chicago, delivered an interesting lecture, which was elaborately illustrated by numerous colored stereopticon slides, on the "Eyes and Eyesight of the Lower Animals."

Officers.

The following officers were elected: President, Dr. Donly C. Hawley, Burlington, Vt.; vice-presidents, Drs. Helen C. Putnam, Providence, R. I.; George W. McCaskey, Fort Wayne, Ind.; Henry B. Favill, Chicago, and James T. Searcy, Tuscaloosa, Ala.; secretary and treasurer, Dr. Charles McIntire, Easton, Pa.; assistant secretary, Dr. Samuel C. Stanton, Chicago.

The next meeting will be held in Boston, June 2 and 4, 1906.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF DELAWARE.

Annual Meeting, held in Wilmington, Oct. 10, 1905.

The president, Dr. Alexander Lowber, Wilmington, in the Chair.

(Continued from page 1254.)

Sanatorium Treatment of Consumption.

DR. ALEXANDER LOWBER, Wilmington, in his annual address, stated that, during the year 1900, there were 110,000 deaths from consumption in the United States. He urged teaching the general public that tuberculosis is an inoculable disease, conveyed largely through the agency of the sputum; the avoidance of promiscuous expectoration; the necessity for proper disinfection by the state boards of health; the sanitary supervision of workshops, places of public resort, hotels, steam and trolley cars, etc. Early diagnosis, informing the patient of the nature of his illness, and the treatment of the general condition of the patient, are essential factors, as the further advanced the disease is the less chance there is for recovery. Sanatorium treatment is essential, and among the important features thereof he mentioned constant life in the open air; sleeping either in the open air or in a room sufficiently open on all sides; good feeding; judicious exercises; stimulation of the vital forces, and special respiratory exercises to increase the lung capacity, together with special, individual instructions to every patient. He enumerated the number of sanitariums in the different states and territories, as well as in foreign countries, and gave a résumé of the work they had accomplished.

DISCUSSION.

DR. J. J. BLACK, New Castle, urged that the profession appeal to the legislature in order to secure the establishment of a state sanatorium. The place to attack consumption is in the slums, among the indigent and ignorant. Much can be done to prevent the spread of the disease by educating these people to the proper care of themselves and the proper precautions necessary for the safety of others. He did not believe that climate had much influence on the effect of the sanatorium treatment.

DR. GEORGE WILLIAM MARSHALL, Milford, stated that he believed the chief reason the state sanatorium had not been established was the lack of funds in the state treasury.

DR. A. ROBIN referred to the practice, when the sanatorium treatment is begun, of giving the patient a large number of eggs, which are sometimes indigestible, owing to the large amount of hydrochloric acid and gastric juice required for their proper assimilation. He believed that the reason a meat diet is so successful is because it stimulates the secretion of the gastric juice and produces more hydrochloric acid.

Dr. W. H. Hancker, Farmhurst, stated that in the institution established for the care of the tubercular insane they had cured nearly all the cases referred to them, with the exception of those in the very advanced stages, the treatment employed being outdoor exercise, plenty of fresh air, nourishment and a meat diet, in conjunction with the eggs.

Autointoxication as a Causative Factor in Disease.

Dr. Albert Robin, Wilmington, classified autointoxication as endogenous and exogenous. Endogenous autointoxication includes the toxins generated by the various tissue cells in the course of their normal biologic activity, the so-called cytotoxins, and the poisons formed during nutrition metabolism. Exogenous autointoxication is caused by the poisons generated in the gastrointestinal tract as a result of bacterial action, as well as the specific toxins generated by bacteria. The cytotoxins are closely related to the bacterial toxins and they cause disease in the same manner. Their continuous menace to the organism is overcome by the antitoxins which are continuously generated in the body by certain cells, probably those of the ductless glands. When this natural immunizing balance is disturbed, disease is the result. Nephritis, hepatic cirrhosis, and various nervous diseases are probably caused by the failure of the organism to neutralize its own toxins. The metabolic poisons generated in the course of normal nutrition are oxidized in the liver and eliminated through the emunctories. Failure of such oxidation and elimination causes disease. The exogenous poisons and toxins are also neutralized by immunizing substances, oxidized in the liver and eliminated through the emunctories. Autointoxication, therefore, may result (1) from non-neutralization of the cytotoxins which are normal end-products of cellular life; (2) from failure on the part of the liver to destroy the poisonous products of metabolism (hepatic insufficiency); (3) from the failure on the part of the kidneys to eliminate the free toxins (renal insufficiency), and (4) from gastrointestinal disturbances which favor intestinal fermentation. The rational treatment of autointoxication resolves itself into an early recognition of the underlying factors, and the application of such remedies as stimulate the production of antitoxic substances by the tissue cells, the destruction of the poisons by the liver and their elimination by the various emunctories.

Acute Septic Inflammations of the Mouth and Throat.

Dr. J. A. Ellegood, Wilmington, referred to the gravity and high mortality of many cases of acute septic processes occurring in this region, and stated that from an etiologic and pathologic standpoint they are identical with erysipelas as occurring in other parts of the body. The clinical character is peculiar on account of their primary occurrence in the mucous membrane, the peculiar and complex anatomic arrangement of the parts involved, and the proximity to the larynx. The clinical features of some of the more severe forms are described. Ludwig's angina is referred to as being an inflammation of the same nature as a septic laryngitis or pharyngitis, the distinction being more of an anatomic than of an etiologic character. Acute inflammation may be followed by ulceration. Milder forms occur, varying in degree from the slightest ulceration to those displaying the greatest malignancy. On account of the anatomic structure of the parts, the tonsils most frequently are the seat of primary infection, and most cases begin as an apparently ordinary form of tonsillitis. Although a great variety of micro-organisms are capable of exciting or taking part in septic processes, the streptococci and staphylococci are regarded as the chief offending agents, at least, in the milder cases. Among the predisposing causes, attention is called to the probable influence of autointoxication, and to the possible good results that may be attained by means of intravenous injection of saline solutions, both with and without general blood-letting. Serum therapy is discussed at length. In case a bacteriologic diagnosis is impossible, the use of an antistreptococcal or of a polyvalent serum is advised. Particular stress is laid on prophylaxis.

Thrombosis of the Popliteal Artery Complicating Typhoid.

Dr. William Chandler Pierce, Wilmington, cited the case of a man, age 38 years, who had been under the treatment of a physician for two weeks for typhoid fever. Examination confirmed this diagnosis and also revealed marked discoloration of the left leg from the knee down; the leg, foot, toes and skin were very dry, smooth and like leather to the touch, the discoloration ranging from black on the toes to dark-brown and gray on the foot, and shades of brown and gray on the leg. The leg emitted a distinct odor. On inquiry it was elicited that four days previously the patient had suffered from pain in the back of the leg, and that at this time the leg began to change color. There was no pulse in the popliteal artery and no glycosuria. A diagnosis was made of dry gangrene following thrombosis of the popliteal artery complicating typhoid. Amputation of the lower third of the thigh was advised when the patient's condition should improve sufficiently to admit of it. The patient died shortly afterward in convulsions.

Fracture of Patella.

Dr. James A. Draper, Wilmington, cited the case of a man who had fallen from a telephone pole, sustaining a compound fracture of the thigh about midway, and a fracture of the patella. The fracture of the thigh was treated by wiring, and there is no appreciable shortening. In the treatment of fracture of the patella, he had applied a ring pessary and posterior splint, which has proven very satisfactory.

Discussion on Autointoxication.

The discussion on the papers was opened by **Dr. H. Brooker Mills**, Philadelphia, who called attention to the fact that, while Dr. Robin's paper primarily related to autointoxication, the others also bore on this subject, as the patient in the case reported by Dr. Pierce clearly died from a general poisoning or autointoxication resulting from a local origin, and many cases of infection of the mouth cause a general intoxication. He reported the case of a Civil War veteran, who had been treated by a number of prominent physicians, for 237 carbuncles, when finally autointoxication was discovered and treated, and the man cured. He also referred to two cases of epilepsy, who had had attacks for years, at least every two weeks, in which he had made the diagnosis of autointoxication of intestinal origin, and originated treatment along the usual lines therefor, including intestinal enemata, with the result that the disease is now entirely cured, apparently neither patient having had an attack within the past two years. He called attention to the necessity for a thorough movement of the bowels daily, and carefully distinguished this term from a daily movement, and, in the detection of these conditions, urinalyses and the determination of the amount of indican, acetone and urea are of the utmost importance. The fecal examination, he felt, should not be omitted, as, while it might be somewhat difficult and require considerable apparatus and time, the results would more than compensate the physician therefor. The use of large doses of purgatives was not recommended; calomel in doses of 1/12 of a grain every hour for twelve hours, followed next morning by phosphate of sodium, a teaspoonful in a glass of hot water one hour before breakfast was cited as a valuable remedy, and, if this does not sufficiently open the bowels, colonic irrigation by means of a long, soft rubber rectal tube should be employed. He called attention to the important part which the skin played in the function of elimination, and urged the stimulation of its activity by drinking large quantities of water between meals. Venesection was considered a mode of relief, but was not felt to be practicable in many, especially the very anemic cases. In conclusion, he called attention to the facts (1) that autointoxication is much more common than it is realized, and (2) that many diseases, local and constitutional, which seem to be difficult of diagnosis are, in reality, due to this condition, and urged the correction thereof, not by large doses of powerful drugs, but simply by emptying the colon by means of the bladder, bowels and kidneys and by careful dietetic and hygienic regulations.

Dr. J. A. Ellegood, Wilmington, felt that Dr. Mills did not make sufficiently clear the difference between autointoxication and ptomain poisoning, the former being produced by chemical leucomains arising from within the body caused by the disturbance of the normal metabolic changes, while the latter are caused entirely by extrinsic substances, and that there was a danger of attributing too many conditions to autointoxication.

Dr. Swithin Chandler, Philadelphia, stated that autointoxication arose solely from causes arising within the body, and not by the absorption of germs introduced from without, and that, while he believed it was important to lay stress on the proper evacuation of the colon, this would have no effect on the conditions produced by germs from without the body, etc. Attention should be given, he stated, to the secondary, as well as the elementary effect of any article—for instance, food that produces uric acid should not be given, not so much for the fact that it produces uric acid as because of the changes that will take place between the proteids and uric acid to make up the by-products and cause autointoxication, and the kidneys should be observed, as much because of the irritation produced as because of their function of elimination. The cases reported by Drs. Ellegood and Pierce, he felt, were cases of toxemia, but not autointoxication.

Dr. Willard Springer, Wilmington, called attention to the fact that the infection in Dr. Pierce's case arose within the body, and that consequently it was an autointoxication.

Dr. Cleaver stated that in cases of diabetes and other similar conditions which result in blocking up the secretion of the urine there is no doubt that marked toxemia does occur, and cited such authorities as von Jaksch and Nothnagel in support of this position. While he did not feel that flushing of the colon would relieve all cases of diabetes, he believed there was no doubt that some pronounced toxemias were cured thereby.

Dr. A. Robin, Wilmington, felt that many of the cases of strict infection were complicated by autointoxication and secondary toxemia, as in the case of gangrene, the secondary infection occurring therein was produced by the formation of putrefaction from the gangrene, which is just as much autointoxication as anything else. The same is true in a case of secondary infection in a case of typhoid, the typhoid bacillus is the primary infection, but autointoxication may arise from other matters generated within the body by reason of this specific germ. He called attention to the fact that he believed the reason the autointoxication was not manifest in all cases was due to the fact that there were certain other cells in the body producing antitoxins, which neutralize the toxins produced by the liver and other organs, and called attention to the necessity for stimulating the function of the antitoxin cells.

Dr. H. Brooker Mills, Philadelphia, stated that, while he did not believe all cases of diabetes or epilepsy could be cured by colonic irrigation, yet, if they could be proved to be due to reflex or other irritation having its origin in the gastrointestinal tract, he believed this to be the most important agency known to medicine for the relief thereof. He felt that in any cause in which the poison arose within the body it must be classed as autointoxication, and believed that the cases of both Dr. Pierce and Dr. Ellegood could be properly classed under this class.

The next annual meeting is to be held in Wilmington Oct. 9, 1906.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Oct. 3, 1905.

The President, Dr. Arthur P. Hitchens, in the Chair.

Ventrosuspension of Uterus.

Dr. Swithin Chandler directed particular attention to the importance of absolute certainty in diagnosis, and stated that fixation should be undertaken only by a surgeon competent to perform the most difficult abdominal operation. He reviewed the various operations employed, including the intraperitoneal shortening of the round ligaments, the Alexander operation, and considered the suspension of the uterus by suturing the fundus uteri to the peritoneum to be the ideal procedure, but did not believe in the use of the pessary. He also urged careful technic, and particularly that no blood be left in the abdominal incision.

DISCUSSION.

Dr. M. P. Warmuth felt that the fixation operation was the one that should be done in the majority of cases, at the same time repairing any lacerations of the pelvic floor and removing endometritis, if present, by curettage. He reported several cases of ventrofixation which had subsequently caused complications, which are particularly likely to occur during subsequent pregnancies.

Dr. Luther C. Peter felt that if the statistics of the operator were supplemented by those of the general practitioner they would probably show up somewhat different, and referred to the case of a multipara, aged 30, in whom an Alexander operation had been done with absolutely no results.

Etiology and Treatment of Constipation.

Dr. Herman A. Bray stated that constipation is more frequent in females than in males and in adults than in children. One of the prominent causes in women is uterine trouble, and among the results are rectal disease, anal fissure, ulceration of the rectum and sigmoid flexure, proctitis and periproctitis. Headache, loss of memory and inability to concentrate thoughts are prominent symptoms. The causes of the condition are mechanical obstruction; defective peristaltic action; deficient intestinal secretion; deficiency of liquid; nervous instability, etc. The underlying cause should be diagnosed and treatment directed to the removal thereof. Stricture of the sphincter ani he believed to be one of the chief causes, and this should be remedied by dilation under local or general anesthesia. The treatment he outlined as follows: Light diet; plenty of fruit, such as oranges, figs, apples, stewed prunes; drinking a tumblerful of water on rising in the morning; regular hour for defecation; avoidance of sedentary life; purgatives should not be given, and only medication of the mildest possible kind. The injection of olive oil, use of electricity and massage, in conjunction with hygienic and dietetic measures, are of value. The exact treatment must be decided for each individual case.

DISCUSSION.

Dr. Swithin Chandler emphasized the importance of paying strict attention to the diet, and called attention to the fact that some of the cereals, if taken repeatedly, have a tendency to cause the condition, and urged as a routine measure the thorough examination of the patient to discover the causative element.

Dr. Wendell Reber referred to the fact that many cases of constipation show a peculiar condition of the optic nerve, with intense fullness of the lymph tubes, as indicating defective elimination, and urged as important factors in the treatment a cold sponge bath in the morning and hygienic and dietetic regulations.

Dr. Carle Lee Felt referred to the case of a girl suffering from constipation who had been treated for a long time by drugs, electricity, etc., with absolutely no effect, when strychnia was pushed to tolerance, which quickly cured her. When she returned again, two or three years later, the same drug quickly gave relief.

Dr. Luther C. Peter stated that a great many nervous conditions can be traced to constipation as a causative factor. He considers strychnia as one of the best drugs for combating the condition.

Dr. Albert Bernheim believed that the constant use of purgatives was detrimental, and that many of the patients who report to the physician that they have a daily bowel movement in reality have feces impacted around the edge of the colon, while the center might be in a condition which would cause diarrhea. The mode of dress, particularly in women, has much to do with the production of the condition; horseback riding has been proved to be a causative factor. Enema may be given for a long time without any deleterious results, preferably by means of a soft rubber tube. Glycerin, eserin, massage, etc., are of value.

Dr. Lewis S. Somers recommended that the patient be instructed to spend a longer time at stool, during which his whole mind should be on this act, no books or papers, etc., being taken to the closet by the patient. He referred to the work of Dr. Stucky, of Kentucky, who has been treating cases of pharyngitis by washing out the bowel several times a week, followed by injections of half a pint of olive oil, and claims to be securing good results.

Dr. Bray stated that he believed the condition of the eyegrounds to be an important diagnostic factor in these cases, and that frequently headaches result from reabsorption of the liquid part of the feces. Constant use of drugs and purgatives is harmful, as is also the constant employment of enemata, as this causes an overdistension of the bowel. He urged thorough digital examination in every case.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Earache.

Lake, in the *Clinical Journal*, in the treatment of this condition mentions among local measures a combination of the so-called oil of hyoscyamus with a little of the tincture of opium; he advises the application of opium salve over the mastoid and along the canal, and equal parts of olive oil and chloroform dropped in the ear. Carbolized glycerin, he states, is useful, as also douches containing opium, morphin or cocain. Of all these remedies, few equal and none excel the local application of chloroform vapor. Especially in the case of children these remedies must be carefully considered and it is often advisable to dispense with opium, which is badly borne by children, and to use hyoscyamus, belladonna or carbolic acid. Other therapeutic aids in this condition are hot compresses, hot irrigations and counterirritants.

Considering the treatment in the relation of the causes of earache, the author recommends a free incision of the drum. This gives the most speedy relief when the inflammation is confined to the middle ear. If the inflammation is extended beyond the middle ear the incision will only partly relieve the symptoms; at the same time leeches should be applied over the mastoid fairly close to the auricle, and hot irrigations and hot compresses should be applied, frequently repeated. The author believes that in the chronic suppurative otitis media the radical mastoid operation gives very satisfactory results. In case of furunculosis of the meatus he states that if pus has escaped from a furuncle before the physician sees the patient, and the pain is subsiding rapidly, all the treatment necessary is a thorough antiseptic cleansing of the meatus, preferably with an alkaline solution, and the use of peroxid of hydrogen, or a 10 per cent. solution carbolized glycerin. If, however, the physician sees the patient before relief from pain has been obtained, not only should he make an incision, passing completely through the center of the furuncle, but the incision should be carried down to the cone, the contents of the furuncle should be removed by a small scoop and the cavity packed.

Infantile Convulsions.

Cautley, in the *Clinical Journal*, gives the following treatment for this condition:

When summoned to a child in a convulsion the physician should take with him chloroform, a chloral hydrate solution of known strength, amyl nitrite, solution of morphin, and a hypodermic syringe. [Morphin and chloral hydrate must be used with extreme caution in children.—Ed.] Probably the attack will be over by the time he arrives, or, if not, the child will have been undressed and given the usual hot bath, with or without mustard in it. As soon as the attack starts the child should be laid down, with the head a little raised, and the clothes loosened or removed. All unnecessary disturbance must be avoided and the child kept quiet. A bath of from 95 to 100 F. may be given, with a view to relieving the congestion of the brain, or a dry mustard pack may be employed as less disturbing. After the child has been in the bath for five minutes it must be wrapped up in hot blankets. The bath is most useful in cases due to colic and is contraindicated in convulsions due to syncope or collapse of the lung. It does not interfere with other measures of treatment. While in the bath and after, cold affusions should be applied to the head by cloths wrung out in cold water or by an ice cap. The lower bowel can be washed out by salt solution, one dram to half-pint of warm water, or sodium sulphate in the proportion of half an ounce to half a pint for an older child; or a glycerin enema may be given. After the bowels have acted, a small rectal injection of chloral hydrate should be given, grains 3 to 10, according to the age of the child; potassium bromid may be combined with the chloral. The rectal injection should not be of more than two ounces bulk for a child aged 1 year, and the buttocks must be held together for a few minutes after injection. [The child must be carefully watched after the administration of chloral or the bromid, and these drugs should be used with great caution.—Ed.] Should there be evidence of the existence of unsuitable food in the stomach, vomiting may be induced by tickling the fauces with a feather or by ipecacuanha wine between the spasms. As a rule, irritant food has passed through the pylorus before the attack is induced. As soon as the child can swallow a dose of calomel should be given. It empties the intestinal tract and relieves cerebral congestion. Emetics should be avoided at this stage.

As soon as the secretion of urine is abundant it is evident that the kidneys are working efficiently and that active treatment can be discontinued. Abundant urination may be looked on as a critical phenomenon announcing the speedy termination of the convulsion. After the attack the child must be kept quiet for a few days on a light diet, and the bowels carefully regulated. During sleep the room must be kept well ventilated, the feet warm and the head raised. Borax, salts of zinc, belladonna and valerianate of zinc may be of use in the treatment.

When there is definite disease the treatment is naturally that appropriate to the disease. All sources of reflex irritation should be attended to, such as adenoids, enlarged tonsils, worms, genital irritation, and ear and eye troubles. The general health and diet should be most carefully watched and tended. The drugs most useful in prevention of infantile convulsions are cod liver oil, malt and iron. In treatment of epilepsy in older children bromids should be given for at least two years, and may be combined with salt starvation. The addition of opium is sometimes useful. Borax, belladonna, the salts of zinc and the valerianates are the next most useful drugs.

In all cases careful attention must be paid to the intestinal tract; constipation remedies and intestinal antiseptics are to be given if necessary. The diet should be plain and unseasoned and should contain little meat. As a rule the regularity of school life is beneficial, but it may be injurious from the effects of teasing by other children, excitement, and over mental pressure for examination. On the whole, it is advisable that a child with epileptic fits should, if possible, be brought up at home in the country, under the care of an intelligent tutor, and should live the life of a healthy animal and learn to earn a living at some outdooor occupation involving more or less physical labor.

Thompson, in *International Clinics*, discusses the treatment from a causative standpoint, first considering the treatment of the child while in the attack. The child should be placed in a warm bath, with or without mustard in it. If mustard is used, about two tablespoonfuls to the gallon is recommended. The child may be placed in a mustard pack and kept there from ten to fifteen minutes. If, however, the fit is prolonged for more than five minutes, or recurs at short intervals, it is best to administer chloroform to control the convulsive movements. Chloral hydrate is another effectual remedy, but as the infant is unable at the time to swallow, it must be administered either hypodermically or injected into the bowels through a rubber catheter.

In the new-born infant with convulsions resulting from injury received during birth sedatives are of little value. The child should be kept as quiet and warm as possible and attention given to its nourishment.

For convulsions in the dyspeptic infant sedatives are of small service. The bowels should be cleansed with a dose of calomel and castor oil and the diet should be modified. Attention should be given to the breast milk. When breast milk is not possible special care should be used in the preparation of a substitute.

In so-called idiopathic convulsions in young babies, expectant treatment, bromids and treatment of the alimentary canal are a waste of time. Chloral should be used (with great caution), the dose varying with the age of the child. This to be continued until the attacks have entirely ceased for from six to eight hours or more, and if not speedily effectual, the dose can be increased until the child begins to get too drowsy to swallow his milk. When the convulsions have entirely ceased for some time the intervals between the doses is gradually lengthened. Usually within three or four days the medicine can be discontinued without any return of the convulsions.

In "teething fits" or "rickety fits" the diet must be regulated on antirachitic lines, and cod liver oil should be given, with or without phosphorus. It is important to see that the child has plenty of fresh air and cold douches given once or twice daily. For these the infant is placed in an inch or so of warm water in front of a fire, and a large jugful of cold water (from 60 to 70 F.), is promptly poured over the shoulders and back. The child is then taken out and rubbed until dry and warm. Under this regimen the child's health improves and all tendency to convulsions soon disappears.

In convulsions caused by serious cerebral defects the result of treatment is very discouraging. Bromids may sometimes be of use. Generally, however, when given in doses large enough to affect the attacks, they interfere considerably with the child's general health. Anything which produces a distinct improvement in the child's general condition, however, may diminish the number and severity of the attacks. Thus a change to the country or the timely administration of a tonic may diminish or stop them for many weeks. In some few cases thyroid substance has a good effect.

Medicolegal

Advertising Monthly Regulators Forbidden.

Chapter 167 of the Public Acts of Connecticut of 1905 amends Section 1157 of the General Statutes, which prescribes a penalty for encouraging the commission of abortion, by inserting "or who shall advertise any so-called monthly regulator for women," shall be fined not more than $500.

Wood Alcohol to be Labeled "Poison."

Chapter 75 of the Public Acts of Connecticut of 1905 amends Section 4734 of the General Statutes of that state by adding "wood or methylic alcohol under any name or in any mixture" to list of drugs which said section requires that the bottle, box, or wrapper containing same when sold shall be marked "poison," except when for use in manufactures or the arts, etc.

May Establish a Bacteriologic Laboratory.

Chapter 162 of the Public Acts of Connecticut of 1905 provides that the state board of health may establish and control a bacteriologic laboratory where examination of supposed morbid tissues for the diagnosis of infectious diseases shall be made, free of expense, on the application of registered physicians or health officers, and may provide necessary buildings and apparatus, employ bacteriologists and assistants, and do all things necessary for the proper conduct of such a laboratory.

"Heart Failure" Not Sufficient as Cause of Death.

Chapter 21 of the Public Acts of Connecticut of 1905 amends Section 1862 of the General Statutes by inserting therein the words, "a certificate of death giving heart failure, paralysis of heart, cardiac incompetence, cardiac exhaustion, heart weakness, collapse of heart, cardiac syncope, cardiac paralysis, or any like term having the same meaning as heart failure, shall not be deemed sufficient on which to issue a burial or removal permit, and such certificate must be returned to the physician who made it for the proper correction and definition."

No Preservative or Coloring Matter for Meats.

No. 46 of the Laws of Pennsylvania of 1905 provides that if any person, firm or corporate body shall, by himself, herself or themselves, or by his, her or their or its agents or servants, sell, ship, consign, offer for sale, expose for sale, or have in possession with intent to sell, as fresh, any meat, poultry, game or shell fish which contains any substance, article or ingredient possessing a preservative character or action, or which contains any coal-tar dye, or any other substance or ingredient possessing a coloring character or action, shall be deemed guilty of a misdemeanor, etc.; provided, that nothing in this section shall prohibit the use of ice as a preservative, or proper refrigeration.

Regulation of Practice of Optometry.

Chapter 96 of the Laws of New Mexico of 1905 is entitled "An act to regulate the practice of optometry and for the appointment for the board of examiners in the matter of said regulation." It defines the practice of optometry as the employment of subjective and objective mechanical means to determine the accommodative and refractive states of the eye and the scope of its functions in general. It provides that every person, before beginning the practice of optometry in this territory, after the passage of this act, shall pass an examination before said board; examination shall be confined to such knowledge as is essential to the practice of optometry. But nothing in this act shall be construed to apply to physicians and surgeons authorized to practice under the laws of the territory of New Mexico.

May Admit Holders of Certificates from Other States.

On page 212 of the Laws of Missouri of 1905 is an act which amends Section 3 of the act regulating the practice of medicine by adding thereto the words: "And it is further provided that the said state board of health may at their discretion admit without examination legally qualified practitioners of medicine who hold certificates to practice medicine in any state or territory in the United States, or the District of Columbia, with equal requirements to the state of Missouri (and that extend like privileges to legally qualified practitioners from this state), on the applicant paying a fee of $25." The words here inclosed in parenthesis are, however, omitted from the statement of the proposed amendment in the first part of the amendatory act.

Cocain to be Sold Only on Prescription.

On page 145 of the Laws of Missouri of 1905 is an act which provides, under penalty, that it shall not be lawful for any druggist or other person to retail, or sell, or to give away any cocain, hydrochlorate, or other salt of or any compound of cocain, or preparation containing cocain, or any salts of or compound thereof, except on the written prescription of a licensed physician or licensed dentist, licensed under the laws of the state, which prescription shall only be filled once; provided, that this shall not apply to sales in the usual quantities at wholesale by any manufacturer or wholesale dealer when such manufacturer or wholesale dealer shall have affixed to the box, bottle or package containing such cocain, hydrochlorate or other salt or compound of cocain or preparation containing cocain, a label specifically setting forth the proportion of cocain contained in any preparation.

Restricts Sale of Cocain, Eucain and Their Salts.

Chapter 127 of the Public Acts of Connecticut of 1905 provides that it shall be unlawful for any person, firm, or corporation to sell, furnish, or give away any cocain, salts of cocain, eucain or its salts, or any preparation containing any cocain, or salts of cocain, or eucain or its salts, except on the original written order or prescription of a lawfully authorized practitioner of medicine or veterinary medicine, which order or prescription shall be dated, and shall contain the name of the person for whom prescribed, or, if ordered by a practitioner of veterinary medicine, shall state the kind of animal for which ordered, and shall be signed by the person giving the prescription or order; and such written order or prescription shall be permanently retained on file by the person, firm, or corporation who shall compound or dispense the articles ordered or prescribed, and it shall not be recompounded or dispensed a second time except on the written order of the original prescriber; provided, however, that the provisions of this act shall not apply to sales at wholesale by jobbers, wholesalers, and manufacturers to retail druggists, nor to sales at retail by retail druggists to regular practitioners of medicine, dentistry, or veterinary medicine, nor to sales to hospitals, colleges, or scientific or public institutions.

Sanitarium for Treating Incipient Tuberculosis.

On pages 292-7 of the Laws of Missouri of 1905 is an act which provides for the establishment, as soon as practicable, of an institution for the treatment of incipient pulmonary tuberculosis, to be located in some suitable portion of the state, and to be known as the Missouri State Sanitarium for the treatment of pulmonary tuberculosis in its earlier stages, or, as stated in another section, to be known as "state sanitarium for the treatment of incipient pulmonary tuberculosis." Fifty thousand dollars is appropriated for this purpose. There must be not less than 160 acres of good land, which shall have an elevation of at least 1,000 feet above sea level. After this, special regard shall be had, first of all, to salubrity of location. Another point to be considered is convenience to pure and wholesome water. Some of the buildings shall be for a hospital, and others for cottage sanitarium purposes. Said buildings shall be constructed of substantial materials, the walls being of brick or stone, the interior subdivisions to conform, as near as may be, to the most modern improvements, having reference to the comfort and convenience of the inmates therein; they shall be as near fireproof as practicable, with partitions and fire walls between the wards; also such facilities for egress as will insure safety in case of fire. There shall be a board of managers, to consist of five persons, two of whom at least shall be practicing physicians of good repute, and all to be appointed by the governor, subject to the confirmation of the senate.

Emergency Fund Provisions for Epidemics and Disasters.

No. 219 of the Laws of Pennsylvania of 1905 appropriates $50,000 for the purpose of creating an emergency fund, to be used, as occasion may require, by the state board of health in the suppression of epidemics, prevention of disease, and protection of human life in times of epidemic disease or of disaster threatening disease, beyond the ability of the local authorities to check or relieve. This money shall be held in the treasury of the commonwealth, and whenever the secretary of the state board of health shall find that the public health is threatened, either by epidemic or as a result of great disaster, to such an extent that the local authorities are unable to meet the emergency, he shall prepare a statement to that effect, rehearsing all the facts in the case, and the reason for considering that state aid is needed, and to what amount, and transmit the same to the governor. If the statement and the reasons therein set forth shall meet with the approval of the governor, he shall certify and file the statement and certificate of approval in the office of the auditor general, who shall then draw his warrant on the state treasurer for the amount approved by the governor, and place the same in the hands of the treasurer of the state board of health, to be used for the purpose set forth in the statement approved as aforesaid, and for no other purpose. If, after the said epidemic shall have been suppressed, or the sickness or danger averted, there shall still be a balance of the amount drawn left in the hands of the treasurer of the state board of health, he shall, without delay, return the same to the state treasurer, and it shall become part of the said emergency fund. He shall also file with the auditor general a specifically itemized statement, made under oath, of the expenditures of said moneys, as soon as possible.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

November 4.

1 *Examination of the Leucocytes as an Aid to the Diagnosis and Prognosis of Disease. T. R. Brown, Baltimore, Md.
2 *Dilation and Curettement for Dysmenorrhea. G. R. Holden, Baltimore.
3 *Method of Administering Mercury in Syphilis. O. Lerch, New Orleans, La.
4 *Intranasal Drainage of the Frontal Sinus. E. F. Ingals, Chicago.
5 Value of Drugs in the Treatment of Insomnia. J. S. Christison, Chicago.
6 Deflection of the Nasal Septum in Children. A. A. Bliss, Philadelphia.

1. Examination of Leucocytes as Diagnostic Aid.—Brown reviews our knowledge of the variations in the white blood cells in health and in disease, and the aid that may be derived from their study. He says that a thorough appreciation of the exact significance of leucocytosis will not be possible until we have definitely determined the mode of origin of the various forms of the white blood cells and their relationship to each other. Nevertheless, study of these cells in the various diseases and pathologic conditions has demonstrated beyond a doubt that their determination is of real practical help in the diagnosis and prognosis of disease. There are only a few diseases in which an absolute diagnosis can be made from the blood examination alone; in the vast majority of cases the condition of the leucocytes aids in making the diagnosis; in many cases, however, it is an important point without which the diagnosis would be even more incomplete than, of necessity, it is often forced to be. Thus, the study of the leucocytes has rendered possible the diagnosis of a certain number of diseases, as the leukemias and trichinosis, besides rendering marked assistance in the diagnosis of others, as tuberculosis, typhoid fever, pneumonia and various inflammatory and suppurative conditions. It tells much in regard to the prognosis of all forms of infection and inflammation. It has aided in discriminating diseases presenting clinical pictures markedly alike, such as central pneumonia and typhoid fever, appendicitis and conditions simulating it but of entirely different origin, peritonitis and gastrointestinal autointoxication, lymphatic leukemia and Hodgkins' disease, myelogenous leukemia and Banti's disease, measles and scarlet fever, etc. It has provided the surgeon and gynecologist with a ready means of determining, in the first place, whether or not he is dealing with inflammatory or suppurative processes; in the second place, whether the process is diminishing or increasing, while in the third place, it tells him much, if he can but read the figures aright, regarding the prognosis of his cases. Leucocyte counting, says Brown, has not and never will reach the point at which it and it alone will furnish us with an absolutely correct diagnosis and prognosis, but in the past it has been a great, and it will be in the future an even greater help to the physician and surgeon who value correctly its possibility and its limitations.

2. Dilation and Curettement for Dysmenorrhea.—Holden analyzes reports received from 95 patients at periods varying from one to twelve years after dilation and curettement for dysmenorrhea. He finds that 40 per cent. were entirely or very greatly relieved for at least one year with 7 per cent. out of this 40 per cent. having a recurrence of the dysmenorrhea after one year or more; 30 per cent. had no relief at all, while the remaining 30 per cent. had but slight relief or relief for a few months only. Marked maldevelopment of the pelvic organs was present in 20 cases and in only 25 per cent. of these were the patients relieved. From a study of the character of the pains Holden concludes that the prognosis for relief after dilation and curettement is better when the pains are sharp, begin the day of the flow or the day before, and last but a day or two. The prognosis is bad when pains are dull, begin several days before the flow, and last for several days or throughout the flow. Dysmenorrhea may be caused by lurking pelvic inflammatory disease which is not recognized at pelvic examination under ether. In these cases dilation and especially curettement may make the symptoms much worse. Neurasthenia, anemia or malnutrition are frequently present. In some cases such conditions are the cause of the dysmenorrhea. To get good results from the operation these conditions must also be cured. In 61 of the cases a microscopic examination of the curettings was made. Chronic endometritis in such relation as to be a possible cause of the dysmenorrhea was present in but 4 cases, hence Holden concludes that chronic endometritis is an infrequent cause of dysmenorrhea. As but 3 out of 20 sterile married women of this series, in the child-bearing period, conceived within a year after the operation, the value of dilation and curettement in relieving sterility does not seem great. In general the procedure should be limited to cases in which there are no gross pathologic lesions, such as retrodisplacements, inflammatory disease of adnexa, or myomas, to account for the dysmenorrhea.

3. Mercury in Syphilis.—Lerch explains why mercury is more effective when given by inunction. He urges that in tabes and paresis antiluetic treatment should be tried, as it is often impossible to make a positive diagnosis. A certain an-

alogy between syphilis and tuberculosis has led him to give inunctions of iodoform in tuberculosis. He has had good results.

4. **Intranasal Drainage of Frontal Sinus.**—Ingals describes a method which, he says, by reason of its simplicity, thoroughness, and freedom from complications, is an improvement on other methods now in use. In five illustrative cases he explains in detail the various steps of the new operation and the instruments employed. He claims that this operation for intranasal drainage of the frontal sinus can be easily, quickly and safely done in those cases in which it is possible to introduce a probe through the nasofrontal canal. It established free drainage and furnishes a means whereby the patient, without aid, may wash out and medicate the sinus as desired. A hemorrhage can not result from this operation that could not be checked by the packing, except in hemophilia. Perforation of the cerebral wall of the sinus is impossible. The patient's consent can be obtained for this operation much more easily than for an opening through the eyebrow, and thus many cases may be cured in their incipiency that would otherwise prove very tedious and would ultimately demand a more serious operation. This operation would probably prove curative in nearly all cases of acute suppurative frontal sinusitis. It will prove curative in a large percentage of chronic cases. It will be a valuable preliminary to the radical operation in practically all cases. From the curative results in two out of three chronic cases and from the marked benefit in the third, it would appear that the advantages of this operation are so marked that it should be recommended in preference to the external operation in practically all cases, for even if a cure should not result, the conditions will be improved for a radical operation.

Medical News, New York.

November 4.

7 *Treatment of General Peritonitis. A. J. McCosh, New York.
8 Phases in the Development of Therapy. A. Jacobi, New York.
9 *Digestibility of Evaporated Cream. T. Mojonnier, Greenville, Ill.
10 Duodenal Ulcer by One of Its Victims. F. K. Cooke, Durham, N. C.
11 Pneumothorax, with a Report of a Case Complicating a Lobar Pneumonia. W. R. Stone, New York.
12 *Extravisceral Rubber Ligature in Gastroenterostomy. R. C. Coffey, Portland, Ore.

7. **Treatment of General Peritonitis.**—McCosh urges that the treatment of this condition should vary according to the etiology, duration and virulence of the disease, and also according to the resisting power of the patient. He questions the advisability of immediate operation in all cases, but he does not recommend non-operative treatment even in the majority of cases. The surgeon should always consider whether operation will give the patient the best chance for recovery. Ten years ago McCosh says he was in the habit of operating in 80 or 90 per cent. of all these cases. Now he operates in only about 50 per cent. The most important features of operation for general peritonitis are: 1, Rapidity; 2, gentleness; 3, removal of the cause; 4, postoperative elevation of the trunk and head, with corresponding depression of the pelvis. General anesthesia, as a rule, is preferable to any method of local anesthesia. Chloroform is frequently to be preferred to ether, though a mixture on an open mask is often the most advantageous. As a rule, when the cause is known, the incision should be made over the spot where lies the exciting lesion. In cases of doubt immediate incision is best. Wherever situated, a length of from 8 to 10 cm. is generally sufficient. If not, the incision can be extended during the progress of the operation. An incision of from 12 to 20 cm. does not seem to offer any advantages, and if recovery follows, is apt to result in discomfort to the patient. As a rule, an intermuscular incision is not advisable, though in lax abdomens either the McBurney or Kümmerer incision is sometimes sufficient. The incision along the outer edge of the right rectus muscle is generally the most convenient. The cause of the peritonitis is immediately sought and brought into view. At the same time it is determined whether or not the peritonitis is general. If general, irrigation through a tube is at once begun. Normal salt solution at a temperature of 110 F. is employed, through a hose of good size, and with considerable force. The rubber hose itself may be inserted, or there may be attached a long glass irrigating tube or a double current glass tube, for ingress and egress of the fluid. The irrigation is begun in the flanks and systematically carried to different parts of the abdominal cavity, terminating with a thorough washing out of the pelvis. The hand of the operator, covered *invariably* by a rubber glove, by gentle manipulation, helps the washing process. If the intestines have emerged from the abdominal cavity, they are carefully protected by hot towels, and flooded with hot saline solution. Generally, into the upper part of the small intestine there is injected through a large hypodermic needle 30 gm. of a saturated solution of magnesium sulphate, the puncture being afterward closed by a Lembert suture. When the peritoneal contents have been replaced, nothing remains but the closure of the wound and drainage. This is effected by the employment of one or two drains of small diameter, the remainder of the wound being closed. One of these drains generally passes into the pelvis, and often another into the loin. This latter may emerge through a stab wound made posteriorly. The "cigarette drain" is McCosh's favorite. It consists of a thin strip of sterile gauze, around which is loosely wrapped a layer or two of thin rubber tissue. In place of the cigarette drain, especially if the pus be thick, a fenestrated rubber tube is sometimes employed. He never employs for purposes of drainage unprotected gauze strips or masses of packing. A strip of gauze, carried through a glass tube into the pelvis, however, is occasionally used. For the emergence of these drains comfortable spaces are left in the wound unsutured, or the sutures may be inserted for future use, but left untied. Often while the operation is in progress, an intravenous saline infusion is given by an assistant. The smallest possible amount of anesthetic is administered. To reduce tympanites McCosh administers .002 mg. physistigmin salicylate hypodermically. A small hypodermic injection of morphin is usually administered at the close of the operation. The postoperative treatment is of importance. The patient is placed in Fowler's position for a week, the thighs being flexed over one or two pillows. Starvation is absolute until abdominal distension is diminished and until vomiting ceases. Gastric lavage is frequently given before the patient leaves the operating table, and is often continued at intervals until vomiting ceases. Drainage remains as established for thirty-six to forty-eight hours, and then its removal is begun cautiously and gradually.

9. **Digestibility of Evaporated Cream.**—Mojonnier's investigations lead to the following conclusions: 1. The protein in evaporated cream digests a little more rapidly when treated with artificial gastric juice than does that of raw, Pasteurized or boiled milk. 2. The protein in evaporated cream is almost entirely soluble in artificial gastric juice. Its total digestibility by this method compares very favorably with that of raw, Pasteurized and boiled milk. The small difference found was in favor of the evaporated cream. 3. By means of natural digestion experiments with a child and with a man, the child was found to digest evaporated cream a little more completely than did the man. It was found that in the case of the child that only 3.31 per cent. and in the case of the man only 6.81 per cent. of the entire solid matter of the food remained undigested. 4. The total digestibility of the protein in evaporated cream, after making correction for the metabolic products in the feces, in the case of the child was found to be 98.48 per cent., or very nearly what was found by means of artificial gastric juice, namely, 98.89 per cent. With the man it was found to be 93.10 per cent. 5. The butter fat and milk sugar were both very completely digested and assimilated by two subjects. The child digested 98.80 per cent. of the fat and 97.78 per cent. of the sugar. The man digested 95.84 per cent. of the fat and 96.85 per cent. of the sugar. 6. The child digested nearly 18 per cent. more of the mineral matter than did the man. This accords with the accepted theory that a child requires more mineral matter in proportion to its body weight than does an adult because its bones are growing and developing. 7. The total energy or fuel value of evaporated cream is almost entirely available to the body. The child used 97.25 per cent. and the man 94.59 per cent. of the total energy contained in the evaporated cream which they used. 8. The health of both subjects was

normal during the experiments. The child gained in weight, an average of about one pound a week and relished its diet. The man lost in body weight, but gained in protein to the amount of nearly one-third ounce of protein a day. 9. Evaporated cream, like other forms of pure milk, is an economical article of diet because its nutrients are practically all available to the needs of the body.

12. **Extravisceral Rubber Ligature in Gastroenterostomy.**—Some time ago Coffey described an operation (THE JOURNAL, Jan. 2, 1905, page 72), of entero-enterostomy in which an extravisceral silk ligature was used. This method was very similar to the one described by Coffey in this paper, except that no cut was made and the silk ligature included all the coats. Coffey found that the method first described could not be well applied with the wall of the stomach because of its great thickness. The operation is now performed as follows: First, the incision is made both in the abdominal wall and in the mesocolon in exactly the same manner as if the short loop operation were to be done with clamps or the McGraw ligature. The stomach is pushed down through the mesocolon from above, by the hand of the operator or assistant, and held there. Second, a circular button is cut with a sharp knife down to the submucous connective tissue, great care and caution being exercised not to cut the submucous plexus of vessels. As the mucous membrane is approached, the muscular fibers, both in the wall of the stomach and in the button, contract, leaving quite a wide circular cut. The same thing is done with the intestine, except that the button is made oblong, parallel with the axis of the intestine, in order not to encroach too much on the lumen of the intestine, and also to avoid the larger vessels. Third, the button and mucous membrane are picked up gently with a wide forceps like a sponge holder, or, if preferred, with the fingers; a silk or linen thread is then laid across one side of the wound, one end being held by an assistant, the other lying loose. A rubber band of the size of No. 14 braided silk is cut in two, making of it a thread instead of a band. The mucous membrane is pulled out as far as possible, without tearing or injuring it, so that as big a bite as possible may be cut out. One end of the rubber string is held with a pair of forceps by an assistant, while the operator takes the other end, with or without forceps, and proceeds to wrap the rubber around the mucous membrane, including the thread, which is to tie the rubber. If the rubber is as small as it should be, ten or twenty turns should be made. The string is tied around all the rubber to prevent slipping. The suture is continued all the way around, and the last end is tied with the end left loose for this purpose at the starting point. One of the main advantages of this operation, says Coffey, is the fact that no opening is made into the intestine or stomach at the time of the operation, hence the danger of infection is minimized.

Medical Record, New York.

November 4.

13 *Antepartum Measurement of the Fetal Head. W. S. Stone, New York.
14 *Carcinoma of the Intestinal Tract. J. P. Tuttle, New York.
15 *Quick Curative Treatment of Gonorrhea. F. A. Lyons, New York.
16 Treatment of Joint Stiffness by Means of Gradual Rectification Combined with Massage. G. Norstrom, New York.
17 *Four Cases of Essential Anemia and Their Diagnostic Differentiation. W. O. Bridges, Omaha, Neb.
18 Case of Primary Lupus Vulgaris of the Oropharynx and Nasopharynx, Treated by X-rays. H. S. Birkett, Montreal.
19 *Acute Pancreatitis. J. G. Sheldon, Telluride, Colo.

13. **Antepartum Measurement of Fetal Head.**—Stone shows that the antepartum measurement of the fetal head is as feasible as is pelvimetry, and that these measurements afford a more precise method of estimating the course of labor in contracted pelves than any other now available. They are of the greatest value in the selection of the cases suitable for premature induction of labor, and in the determination of the best time for performing it. Stone's method of measurement is described as follows: "The patient is placed in the ordinary dorsal position for an abdominal examination, and the examiner, standing by the side and placing the lower end of the patient's body, first carefully palpates and makes out the position of the head. If it is already engaged in the pelvis, it will not be practicable to measure it, but in such cases it naturally is unnecessary. The occipital and frontal poles are then grasped between the two hands, and an assistant places from below the ends of the pelvimeter between the terminal phalanges of the middle and ring fingers of the examiner, pushing them firmly inward, as the examiner directs. It is essential that the ends of the pelvimeter go between these fingers, because in palpation one naturally places the middle or longest finger nearest the two poles from which the measurements are to be taken. If placed in front of the middle finger, the pelvimeter will slide forward and the measurement will be inaccurate. An assistant or nurse is necessary in order to obtain the best results, in order that the examiner's fingers may be entirely free accurately to locate the fetal parts." A table is given showing the results obtained before and after delivery in 41 patients measured in this way. In 28 instances the postpartum measurement of the occipitofrontal diameter agreed exactly with the measurements made through the abdominal walls before labor; in 11 there was an error of 0.25 cm.; in 2 of 0.50 cm. In another table the average amount to be deducted from each occipitofrontal diameter in order to obtain the biparietal diameter is given.

14. **Carcinoma of the Intestinal Tract.**—Tuttle discusses the symptoms and indications for treatment of cancer of the intestine, these varying according to the portion of the digestive tract occupied by the neoplasm. The various segments of the alimentary tract, in the order of frequency with which they are attacked by cancer are: stomach, rectum, sigmoid, cecum and ascending colon, transverse and descending colon, vermiform appendix, duodenum, ileum and jejunum. The prognosis of cancer of the intestinal tract without surgical interference is absolutely hopeless. The fact, however, that metastasis and glandular involvement are later in this area than in any other portion of the body renders surgical interference more hopeful here than elsewhere.

15. **Quick Curative Treatment of Gonorrhea.**—Lyons reports 400 cases treated by the method brought forward by him ten years ago. In 384 of these cases the disease was cured in six days, and in about 80 per cent. of this number in twenty-four hours. The method consists of injections into the urethra of a dram and a half of silver nitrate solution, at first in 4 per cent. strength, later in 2 per cent. and 1 per cent. strength. In most cases a single injection was sufficient. When a cure was not effected by three injections the treatment was discontinued. The method depends for its effect on the fact that early in the disease the gonococci lie entirely on the outer layer of epithelial cells, multiplying on them, destroying their vitality and causing them to exfoliate. At this stage the microscope shows many gonococci on the epithelial cells. There follows congestion, afflux of serum, exfoliation of all the epithelium until the subepithelial tissue is laid bare. There will now be in the discharge few epithelial cells and many pus cells. At this time the gonococci penetrate the connective tissue. As long as there appear under the microscope epithelial cells studded with gonococci, so long are the germs within reach of the germicide, and the case is amenable to quick treatment. The exfoliation of the epithelium caused by the silver nitrate only quickens the exfoliation produced by the disease and destroys the gonococci and does no harm.

17. **Diagnosis of Essential Anemias.**—Bridges discusses the differential points in the diagnosis of acute lymphatic leukemia, splenomyelogenous leukemia, splenic anemia with atrophic cirrhosis of the liver, and pernicious anemia, and reports one case of each disease.

19. **Acute Pancreatitis.**—Sheldon suggests the following points be made the subjects of discussion by writers on acute pancreatitis: 1. *The presence of glycerin in the urine*, which Cammidge and Robson claim is characteristic of pancreatic disease. 2. The infectious or mechanical nature of the process in the early stages of the disease. 3. The significance of the condition of the gall bladder. He has found it distended and very tense in three out of four patients with acute pancreatitis operated on or observed at autopsy, and did a cholecystotomy in a supposed instance of acute pancreatitis twelve hours after the onset of symptoms, the case terminating in recovery.

Boston Medical and Surgical Journal.

November 2.

20 Relation of Animal Life to Human Diseases. T. Smith, Boston.
21 *Case of Pyloric Stenosis in an Infant. J. L. Morse and F. T. Murphy, Boston.
22 Separation of the Criminal Class from Other Insane in Institutions. C. A. Drew, Bridgewater, Mass.
23 Active Treatment of Muscular Rheumatism. B. B. Cates, Knoxville, Tenn.

21. **Pyloric Stenosis.**—In the case reported by Morse and Murphy, the vomiting began when the infant was two weeks old. Just before entering the hospital the infant passed a closed bib-pin about one inch long, which had been missing for about two weeks. The onset of the vomiting coincided pretty closely, therefore, with the disappearance of the pin. A diagnosis of chronic gastric indigestion was made, with stenosis of the pylorus to be considered. Various sorts of food were tried, and various plans of feeding were instituted, but without success, the vomiting continuing. There was nothing characteristic about the vomiting at any time. One week after admission of the patient to the hospital the lower border of the stomach was palpable just below the umbilicus, and at times visible peristalsis was made out, although it was not distinctly in waves. Two days later a mass the size of a small marble was felt about 1 cm. below and to the right of the umbilicus. The consistency and form of the mass were variable. The mass was freely movable but not tender. Operation was advised but refused. The only distinctive feature about the bowel movements was their meconium-like character. The operation, which was performed later, disclosed at the pylorus a bluish-red smooth and rounded tumor about the size and shape of a good sized dollar. The stomach was distended. Below the pylorus the entire intestinal tract was collapsed and contracted. The child died ten hours after the operation. The authors emphasize the following facts: 1. The symptoms may vary much from those of absolute pyloric obstruction, and they do not necessarily begin at birth. 2. The peculiar meconium-like character of the dejections may be of great diagnostic importance. 3. In complete or nearly complete pyloric obstruction, operation seems to offer the only hope of recovery. 4. The operation must be done before the infant has become reduced to the last degree of starvation, therefore an early diagnosis is imperative. 5. Pathologically, the condition is an entity.

New York Medical Journal.

November 4.

24 Morgagni to Virchow; An Epoch in the History of Medicine. J. L. Steven, Glascow.
25 Spirochæta Pallida in Syphilis. A. Fanoni, New York.
26 *Methods of Exploring the Abdomen, and a New One. A. H. Ferguson, Chicago.
27 *Further Contribution to the Pathogenesis of Exophthalmic Goiter. A. Gordon, Philadelphia.
28 **Chronic Headache and Its Treatment by Massage.* G. Norstrom, New York.
29 *Three Vices of Blood Pressure. L. F. Bishop, New York.
30 Status of the Fetus in Utero. H. Hughes, Mankato, Minn.

26. **New Method of Exploring Abdomen.**—Ferguson points out the value of the various methods now in use of exploring the abdomen and calls attention to a new one devised by him. Through the incision for exposing the gall bladder and ducts it is his practice to see and feel all he can within a reasonable radius. It is not uncommon that appendicectomy can be performed through this incision without even extending it downward. In one instance he removed a stone in the right kidney through this incision. On the other hand, the bile ducts may be explored through the incision usually made to reach the kidney. This is done by making an incision through the peritoneum in front of the kidney, reaching inward to the gall bladder, discovering gallstones, and removing them through a button-hole incision made over the fundus of the gall bladder as it is held by the exploring hand against the anterior abdominal wall. He has also removed the appendix through the lumbar incision for kidney work. Through an enlarged gridiron incision for appendicitis he has often removed small fibroids, shortened ovarian ligaments, bisected ovaries, and he has performed anterior transplantation of the round ligaments, salpingostomy, and hysterosalpingostomy before or after removing the appendix. In cases presenting the clinical evidences of both appendicitis and gallstones, he makes a "compromise incision" through the right rectus muscle opposite the umbilicus, of sufficient length to admit the hand, which easily reaches the gall bladder and appendix respectively and, if need be, the other organs within the abdomen. In certain cases, says Ferguson, an examination of the abdominal organs would be highly satisfactory, although often the operator does not feel justified in opening through the abdominal wall for that purpose. The problem is solved in passing the hand and entire forearm into the abdominal cavity through the vagina. In order to furnish enough space for this purpose, it is imperative to cut through the mucous membrane of the vagina its whole length on each side postero-laterally. The mucous membrane being severed, the other structures stretch at once. The bare arm being smeared over with sterile vaselin, glides in with ease. A number of instances are cited in which this method of examination proved exceedingly useful.

27. **Pathogenesis of Exophthalmic Goiter.**—Gordon cites a case which he considers a valuable addition to the subject of the nervous origin of exophthalmic goiter and especially to its probable origin in the medulla; interesting also, from the standpoint of evolution of the symptoms, the involvement of cranial nerves, preceding a rapid, if not immediate, development of exophthalmic goiter. A middle-aged woman while attending to her usual duties noticed suddenly that she could not raise her eyes in the normal manner; she had to throw her head backward in order to be able to look up. On the following day she noticed an inability to turn the left eye externally. A few days later a gradually coming on of prominence of both eye globes was observed. A week later the neck became enlarged in front and at the same time palpitation of the heart with tremor of the hands made their appearance. In addition to the inability to raise both eyes (more on one side than on the other) and to turn both eyes externally (more on one side than on the other), there was also difficulty to turn the eyes upward and inward or downward and inward; finally the left pupil reacted very sluggishly to light. It was, therefore, an involvement of the third, fourth and sixth nerves, unequally distributed on both sides. The syndrome of Graves' disease was present in its entirety: exophthalmos, von Graefe's sign, goiter, tachycardia (pulse 120), and tremor.

28. **Chronic Headache Treated by Massage.**—Norstrom makes a running comment of the treatment instituted by him for chronic headache of inflammatory and muscular origin. The treatment consists of massage of the muscular insertions to the cranium, of the fleshy part of the trapezius, the sternocleidomastoid, and other muscles of the neck, performed for a time sufficient to remove inflammatory deposits.

29. **Vices of Blood Pressure.**—According to Bishop, the vices of blood pressure are threefold: First, primary low arterial tension, which is met in all enfeebling disease, in great physical emergencies, and following either disease of the heart structure, or failure of the vital force and tissues of the body. Second, high arterial tension, which indicates that the circulation is laboring under stress, and due to nervous causes, such as overwork, excitement, and dissipation, or chemical causes, such as the over-ingestion of food, or the failure of kidney elimination; indeed, all the causes which can arise from a life of mental hardship combined with physical luxury. Third, secondary low arterial tension, which represents the final outcome of pre-existing high arterial tension.

Lancet-Clinic, Cincinnati, Ohio.

November 4.

31 The County Society. J. C. Larkin, Hillsboro.
32 Thirteen Cases of Scopolamin-Morphia-Chloroform Narcosis. E. G. Zinke, Cincinnati.
33 Case of Self-Castration by an Insane Epileptic; A Patho-Psychologic Study. H. S. Allen, Hatwell.

St. Louis Medical Review.

November 4.

34 Carbonic Acid in the Treatment of Tuberculosis. A. Rose, New York.

Annals of Surgery, Philadelphia.

October.

35 *Fracture of the Spine. H. L. Burrell, Boston.
36 Case of Suture of the Spinal Cord Following a Gunshot Injury Involving Complete Severance of the Structure. G. R. Fowler, Brooklyn.
37 *Tubercular Conditions of the Spine Requiring Surgical and Mechanical Relief. De F. Willard, Philadelphia.

38 *Surgical Treatment of Intraspinal Tumors. R. H. Harte, Philadelphia.
39 *Surgical Anatomy of Small Intestine and Its Mesentery. G. H. Monks, Boston.
40 *Infection of Knee Joint. C. P. Flint, New York.
41 Fibrolipoma of Stomach. H. Fischer, New York.

35. Fracture of the Spine.—As the result of a study of 244 cases, Burrell draws the following conclusions: Fractures of the spine may well be divided into two classes: First, fractures of the spine, with injury to the cord, and, second, fractures of the spine, without injury to the cord. It is not best to decide what the treatment of an individual case of fracture of the spine should be from the statistics, because the lesion varies so widely. In many cases of fracture of the spine it is impossible primarily to state whether or not the cord is crushed or pressed on by bone, blood or exudate, except by an open operation. Only by the persistence of total loss of reflexes, complete insensibility to touch and pain, and motor paralysis below the level of the lesion, can total transverse destruction of the cord be diagnosticated. If pressure on the cord is allowed to remain for many hours, irreparable damage may take place. Unless it is perfectly clear that the cord is irremediably damaged, an open operation to establish the condition of the cord and to relieve pressure is imperative as soon as surgical shock has been recovered from. In certain cases of fracture of the spine, when the cord is not injured, but is liable to injury from displacement of the fragments of a vertebra, rectification of the deformity and fixation of the spine may be used. If the cord is crushed, no matter what treatment is adopted, there will, of necessity, be a high rate of mortality.

37. Tubercular Conditions of Spine.—According to Willard, complete methodical and long-continued fixation of the spine in the position of hyperextension, with healthy surroundings in the sunlight, are the prime factors in securing new ossific deposit necessary to replace the carious bone. Laminectomy for paraplegia is advisable only after long-continued and patient treatment along these lines from one to two years, since the prognosis, especially in children, under these conditions, is favorable, and good powers of locomotion may be confidently expected. The operation is justifiable in selected cases in which loss of motion and sensation are progressively worse and the symptoms threaten life. If the tuberculous masses within the spine can be removed, and if extradural pachymeningitic deposits or pus can be taken away, improvement may be expected, and in many cases relief occurs. The operation has a mortality of about 25 per cent. from immediate shock, 36 per cent. within a month; while one-half the patients die within the year, their lives probably being shortened by the operative procedure. Cases of non-improvement and death equal nearly 65 per cent. Forcible immediate straightening of the kyphosis is an unsurgical and dangerous proceeding; it is liable to reawaken the tubercular disease and to weaken the column. Forcible gradual straightening by supporting the kyphotic area on a pedestal is a valuable agent in relieving deformity. The weight of the shoulders and pelvis can thus be utilized as straightening forces and the weight of the column thrown on the posterior arches. In this position it is permanently fixed by plaster of paris. Complete erasion of the carious bodies of the vertebræ is an uncertain operation; in the dorsal region requiring section of ribs, with danger of wounding the pleura. Wiring of the spinous processes has never been sufficiently tried to demonstrate its helpfulness. Spinal abscesses which contain only liquefaction or caseation products should be aspirated. When true pus has formed, drainage is advisable.

38. Surgical Treatment of Intraspinal Tumors.—Harte's paper is based on the records of 92 operations for spinal tumors, among which number 43 patients died, a total mortality of nearly 47 per cent. The nature of the tumor is recorded in 88 of the reported cases. It was sarcomatous in two-fifths of the whole number (37 cases); adhesions, thickenings, etc., hold second place, with 11 cases; then comes ecchinococcus, 8 cases; fibroma, 6 cases; syringomyelia, 5 cases; endothelioma, 4; psammoma, 3; cyst, 3; fibromyxoma, 2; osteoma, 2, and one each of myeloma, lipoma, lymphangioma, dermoid cyst, primary and secondary carcinoma and one tumor of bone, the nature of which is not stated. In only three instances in which the patient recovered from the operation did no improvement follow it. Two of these were cases of inoperable sarcoma, and the third was a case of syringomyelia. Of those patients, 49 in number, who survived the operation for some weeks or months, no less than 29, or 59 per cent., recovered their functions sufficiently to be classed as cured; 17, or 34 per cent., could be classed as improved by the operation; while in the condition of only three patients, or 6 per cent., as mentioned above, did the operation effect no change. Harte includes in his figures twelve cases in which symptoms of spinal tumor were produced by meningeal thickenings or adhesions. In at least five of these cases the patients had suffered from Pott's disease of the spine in previous years, and a kyphosis still remained; but no tuberculous process was found at the operation. There are 87 cases in which the situation of the tumor with regard to the dura is mentioned; in 50 of these it was extradural, and in 36 intradural—not such a very striking difference. The death rate, moreover, in the extradural cases was even higher than that of the intradural tumors, being 50 per cent. for the former and only 47.21 per cent. for the latter. It is interesting to note that among female patients the mortality of operation has been only 45 per cent., while among the male it is 57 per cent. In searching for an explanation of this marked difference, Harte noticed that sarcomata were found one-third oftener in males than in females, and supposes that this fact may have something to do with lessening the mortality among women. Most of the operations were on adults, nearly one-half being between 30 and 50 years of age. The extremes of life were 9 years, in a boy, and 65 years, in a woman. Those patients under 20 and over 50 gave the highest percentage of recoveries. The average duration of symptoms before the operation was two years and three months. In 12 patients symptoms had existed for less than six months, in 11 for one year, in 8 for one year and a half, in 12 for two years, in 11 for three years, in 7 for four years, and in 6 for periods varying from four to eighteen years. The duration of symptoms does not throw much light on the nature of the tumor. The average duration of symptoms in the patients with sarcoma was two and three-quarters years, in those with adhesions two and three-quarter years, in those with ecchinococcus two and one-half years, and in those with fibroma one and a half years; while in all other forms of growth the average was about two and one-eighth years. A history of injury is noted in only five cases—three sarcomata, a psammoma and an endothelioma. Of 82 cases in which the region of the spine affected is given, the upper dorsal region was involved in 33 cases, or over 40 per cent.; the tumor was found in the lower dorsal region in 24 cases, in the lumbosacral region in 14, and in the cervical region in 11 cases. As far as the results are concerned, it appears to be immaterial at what level the growth is found. The cause of death is given in 28 cases. One-half of these were due to shock and hemorrhage, or to infection and meningitis, there being 7 fatal cases under each of these categories. Eight patients died from exhaustion, three from recurrence of malignant growths, two from hypostatic pneumonia, and one from bedsores and sepsis. As regards the technic of the operation, it is essentially the same as when employed in traumatic cases. After the operation no rapid improvement in the patient's condition need be anticipated; indeed, the paralysis and the anesthesia are sometimes markedly aggravated by the interference with the spinal nerves. The pain, however, is nearly always remarkably relieved; and the patient is in a more hopeful frame of mind than before the operation. The after-treatment should be the same as in every serious operation.

39. Surgical Anatomy of Small Intestine and Its Mesentery. —The studies reported by Monks concern that part of the small intestine which extends from the end of the duodenum to the ileocecal valve, and which is known to anatomists as the jejuno-ileum. The nature of this paper is such that it does not admit of a satisfactory summary of all the points mentioned in it. There are certain features, however, which Monks emphasizes. He attempts to show: 1. That the relative shape of the mesentery and intestine *in situ* can be best understood by arranging the intestine in a series of alternating curves on a wire, thus putting all parts of the intestine and mesentery

gently on the stretch. 2. That the mesentery may be roughly divided into two portions: (1) a proximal or flat portion, which comprises about two-thirds or three-fourths of the mesentery, and (2) a distal or ruffled portion, the "ruffled border," which comprises the remaining one-third or one-fourth. 3. That the main sheets of the mesentery alternate from above downward, going first to the left, then to the right, and finally proceeding to the iliac regions and pelvis. 4. That the fold of mesentery which descends into the pelvis can usually be palpated from a wound in the lower abdomen, and that it forms a valuable guide for the finger in the attempt to reach the left abdominal fossa. Monks suggests that this fold be known as the pelvic fold of the mesentery. 5. That the part of the ileum which is about to enter the cecum can usually be picked up from a right iliac wound with the forefinger, which, after passing into the pelvis, is curved upward around "the pelvic fold of the mesentery." 6. That while the intestine, freed from its mesentery, is straight, or nearly so, the mesentery when attached to it obliges it to follow a curved and tortuous course. 7. That, when the gut is attached to the mesentery, the free border of the gut is several feet longer than its mesenteric border, and that the free border may, therefore, properly be called "the long side," and the mesenteric border "the short side" of the intestine. 8. That the influence of the mesentery is such that the intestine is thrown into a series of alternating loops of varying shapes, sizes and planes. 9. That kinks in the intestine are usually confined to the lateral aspect of the gut. 10. That a distended and paralyzed intestine, filled with gas or semiliquid contents, does not at once empty itself through an enterostomy wound, and that the cause of this is obstruction, not only from sharp curves and kinks, but also from outside pressure on the tube, and, still further, because the fluid portions are in the dependent loops, where they act as traps to obstruct the passage of gases along the tube. 11. That, unless the intestine be "gathered up" on the tube, it is impossible to pass any instrument, hard or soft, straight or curved, into the gut without probability of soon engaging the wall of the intestine, usually in its free border. And, finally (12), that, when the size of the wound and its situation will permit, the surest method, at least on the cadaver, of determining which is the proximal and which the distal end of a loop of intestine is by palpation of the mesenteric root between the thumb and fingers of one hand.

40. **Infection of Knee Joint.**—Flint analyzes 310 cases and *summarizes his paper as follows: Non-penetrating injuries,* penetrating injuries, traumatic or operative, and knees independent of any injury occurring in the course of some other infectious process, or not, may present signs and symptoms not to be distinguished in the absence of bacteriologic examination from the cardinal sign and symptoms of infection. Certain of these cases are undoubtedly infected, but the data at command do not allow these to be distinguished from such as may be due to trauma and those possibly due to toxins secondary to infection elsewhere. The knee joint has certain germicidal powers. One out of every 22 operations on clean knees becomes sufficiently infected to demand operation (4.6 per cent.). One out of every 9 operations for recent (5 days) traumatic non-penetrating injury becomes sufficiently infected to demand operation (11 per cent.). One out of every 35 operations for pathologic conditions other than traumatic injuries more than five days old becomes sufficiently infected to *demand operation and drainage of the joint* (2.9 per cent.). One out of every 22 operations for simple fracture of the patella becomes sufficiently infected to demand operation (4.6 per cent.). One out of every 71 operations for fracture of the patella done after the fifth day becomes sufficiently infected to make operation a necessity (1.2 per cent.). One out of every 9 or 10 operations for fracture of the patella done before the fifth day becomes sufficiently infected to demand operation (10.5 per cent.). Three out of every five cases of penetrating injury to the knee joint become sufficiently infected to require operation (60 per cent.). Of compound fractures of the patella, seven out of nine become sufficiently infected to demand operation (78 per cent.). Certain knees subjected to non-penetrating injury and not operated on become sufficiently infected to require operation (10 per cent. of the operative septic cases). Certain knees become sufficiently infected to require operation *where no history* of trauma or other evident septic focus in the body exists (13 per cent. of the operative septic cases). Certain knees become sufficiently infected to require opening and draining the joint in the course of some evident focus of infection elsewhere in the body (11 per cent. of the operative septic cases). One out of every nine patients with infected knees which have been opened and drained dies (11 per cent.; some after previous amputation). One out of every fifteen patients with infected knees which have been opened and drained comes to amputation before recovery (6.6 per cent.). One out of every thirty-one infected knees which have been *opened and drained is resected (3.3 per cent.).* Most knee joints which have been infected, opened, drained, and recovered show varying degrees of functional disability, from slight limitation of motion to complete ankylosis, with or without subluxation. The average stay in the hospital of a patient operated on for infected knee joint is between two and three months. When it is once determined to open and drain the joint, the operation should be as radical as possible at the start. The position of the leg should be that giving the best mechanical drainage, i. e., the patient should be face down. The risk of infection is greatest in penetrating wounds of the knee (60 per cent.). The *risk of infection is least in operations* on clean knees and where there has been no recent trauma (3 to 4 per cent.).

International Clinics, Philadelphia. Vol. III.

42 Therapeutic Uses of the Roentgen Rays or Radiotherapy. G. C. Johnston, Pittsburg.
43 Action of Metallic Ferments on Metabolism, and Their Effects in Pneumonia. A. Robin, Paris, France.
44 Musculo-Tonic and Diuretic Action of Formic Acid and the Formates. H. Huchard, Paris, France.
45 Symptomatic Treatment of Tuberculosis. N. P. Barnes, Washington, D. C.
46 Opotherapic Treatment of Renal Insufficiency. Teissier, Paris, France.
46½ Serumtherapy. J. W. Wainwright, New York.
47 Mucous Colic or Membranous Colitis. A. McPhedran, Toronto, Canada.
48 Injuries and Lesions Following the Toxic Use of Alcohol. T. D. Crothers, Hartford, Conn.
49 Ulcer of the Stomach, with Contractions in a Boy Aged Fourteen Years; Cerebral Hemorrhage and Lumbar Puncture; Curable Albuminuria. J. A. Robinson, Chicago.
50 Addison's Disease. E. F. Wells, *Chicago.*
51 Case of Chronic Jaundice and Great Enlargement of the Liver, Due to Primary Carcinoma of the Extrahepatic Bile Ducts, Commencing at the Junction of the Hepatic Ducts. F. P. Weber and E. Michels, London.
52 Fractures of the Patella. J. S. Wight, New York.
53 Paraffin Injections by the "Cold" Process. M. Broeckaert, Ghent, France.
54 Ethyl Chlorid: Its Value as a General Anesthetic. T. D. Luke, Edinburgh, Scotland.
55 Differential Diagnosis of Tumors of the Right Hypochondrium. Th. Tuffier, Paris, France.
56 Acute Anterior Poliomyelitis with Special Reference to the Stage of Invasion. S. Brown, Chicago.
57 Paralysis Agitans: Hemiplegia; Combined Sclerosis and Ataxic Paraplegia; Locomotor Ataxia; Acute Confusional Insanity. D. E. Brower, Chicago.
58 Syphilitic Necrosis of the Frontal Bone. A. H. *Ohmann-Dumesnil,* St. Louis, Mo.
59 Treatment of Hay Fever and Asthma. C. H. Knight, New York.
60 Carbonic Acid Gas Application in Rhinitis. A. Rose, New York.
61 Major Trauma of the Eye in General Practice. W. T. Shoemaker, Philadelphia.
62 Gonorrhea and Conjunctivitis. W. G. Sym, Edinburgh, Scotland.
63 Cirrhosis of the Liver. R. Kretz, Vienna, Austria.

American Journal of Orthopedic Surgery, Philadelphia.

October.

64 Conclusions Drawn from a Comparative Study of the Feet of Barefooted and Shoe-Wearing Peoples. P. Hoffmann, St. *Louis.*
65 Patterns of the Spinal Cord Curve of Patients with Pott's Disease Wearing Plaster Jackets. A. Thorndike, Boston.
66 Two Cases of Spondylolisthesis. C. D. Napier, Boston.
67 Desirability of Replacing Congenital Hip Dislocation in Infancy. B. Bartow, Buffalo.
68 Study of the Anatomy of Congenital Dislocation of the Hip After Manipulation Reduction. N. Allison, St. Louis.
69 Congenital Dislocation of the Hip. Stitching the Capsule Around the Reduced Head. E. H. Bradford, Boston.
70 Achillotomy and Fasciotomy in a Patient Seventy-Two Years Old. A. R. Shands, Washington, D. C.
71 Report of the Adult Ward of the Hospital for the Ruptured and Crippled for the First Two Years Ending March 1, 1905. V. P. Gibney, New York.

Iowa Medical Journal, Des Moines.

October.

72 Two Eye Diseases of Children of Interest to the General Practitioner. H. C. Moffett, Clinton, Iowa.
73 Gastric Ulcer. F. E. Walter, Worthington, Minn.
74 Pneumonia: Its Rational Successful Treatment. W. C. Abbott, Chicago.

Virginia Medical Semi-monthly, Richmond.

October 7.

75 Appendiceal Abscess, Pathology and Treatment. S. M. Mason, Clarksburg, W. Va.
76 Appendicitis, when to Operate. J. B. Catlett, Staunton, Va.
77 Mastoiditis. J. G. Parsons, Brookings, S. D.
78 Diagnosis of Pregnancy at Term. G. Baughman, Richmond.
79 Important Changes in the New Pharmacopeia. F. M. Reade, Richmond.
80 Principles of Surgery. S. McGuire, Richmond.
81 Epilepsy. J. W. Selman, Greenfield, Ind.

Texas State Journal of Medicine, Fort Worth.

October.

82 Cure of Leprosy. I. Dyer, New Orleans.
83 Pathogeny of Fever. J. W. McLaughlin, Austin, Texas.
84 X-Ray Treatment of Skin Cancer, Lupus and Keratosis. J. M. Martin, Hillsboro, Texas.
85 Importance and Advantage of Immediate Repair of Lacerations Occurring During Childbirth. J. M. Frazier, Belton, Texas.
86 Repair of Injuries to Birth Canal. M. L. Moody, Greenville, Texas.
87 Observation on the Treatment of Trachoma. T. F. Roberts, Paris, Texas.
88 Treatment of Ectopic Pregnancy. H. K. Leake, Dallas, Texas.
89 Treatment of Exophthalmic Goiter. R. W. Nobles, Temple, Texas.

Northwestern Lancet, Minneapolis.

October 15.

90 Forms and Etiology of Suppurative Processes in the Abdominal Cavity. A. C. Behle, Salt Lake City.
91 Pathology of Suppurative Processes in the Abdomen. J. F. Critchlow, Salt Lake City.
92 Diagnosis of Suppurative Processes in the Abdominal Cavity. E. F. Root, Salt Lake City.
93 Treatment of Suppurative Processes in the Abdominal Cavity. H. D. Niles, Salt Lake City.

Denver Medical Times.

October.

94 Prostatitis. M. H. Sears, Denver.
95 Lead Poisoning by Lead Acetate in Therapeutic Doses. J. R. Arneill, Denver.
96 Normal Obstetrics: Management of the Puerperium. T. M. Burns, Denver.

Journal of South Carolina Medical Association, Charleston.

October 21.

97 Should the Radical Cure of Hernia be Attempted by Median Abdominal Section? R. S. Cathcart, Charleston.
98 Imperative Surgery. A. B. Knowlton, Columbia.
99 Remarks on Appendicitis. T. P. Whaley, Charleston.
100 Remittent Fever. H. L. Shaw, Fountain Inn.
101 Diphtheria. W. J. Chapman, Spartanburg.
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British Medical Journal.

October 21.

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9.—See The Journal, Aug. 13, 1904, page 701.

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gently on the stretch. 2. That the mesentery may be roughly divided into two portions: (1) a proximal or flat portion, which comprises about two-thirds or three-fourths of the mesentery, and (2) a distal or ruffled portion, the "ruffled border," which comprises the remaining one-third or one-fourth. 3. That the main sheets of the mesentery alternate from above downward, going first to the left, then to the right, and finally proceeding to the iliac regions and pelvis. 4. That the fold of mesentery which descends into the pelvis can usually be palpated from a wound in the lower abdomen, and that it forms a valuable guide for the finger in the attempt to reach the left abdominal fossa. Monks suggests that this fold be known as the pelvic fold of the mesentery. 5. That the part of the ileum which is about to enter the cecum can usually be picked up from a right iliac wound with the forefinger, which, after passing into the pelvis, is curved upward around "the pelvic fold of the mesentery." 6. That while the intestine, freed from its mesentery, is straight, or nearly so, the mesentery when attached to it obliges it to follow a curved and tortuous course. 7. That, when the gut is attached to the mesentery, the free border of the gut is several feet longer than its mesenteric border, and that the free border may, therefore, properly be called "the long side," and the mesenteric border "the short side" of the intestine. 8. That the influence of the mesentery is such that the intestine is thrown into a series of alternating loops of varying shapes, sizes and planes. 9. That kinks in the intestine are usually confined to the lateral aspect of the gut. 10. That a distended and paralyzed intestine, filled with gas or semiliquid contents, does not at once empty itself through an enterostomy wound, and that the cause of this is obstruction, not only from sharp curves and kinks, but also from outside pressure on the tube, and, still further, because the fluid portions are in the dependent loops, where they act as traps to obstruct the passage of gases along the tube. 11. That, unless the intestine be "gathered up" on the tube, it is impossible to pass any instrument, hard or soft, straight or curved, into the gut without probability of soon engaging the wall of the intestine, usually in its free border. And, finally (12), that, when the size of the wound and its situation will permit, the surest method, at least on the cadaver, of determining which is the proximal and which the distal end of a loop of intestine is by palpation of the mesenteric root between the thumb and fingers of one hand.

40. **Infection of Knee Joint.**—Flint analyzes 310 cases and summarizes his paper as follows: Non-penetrating injuries, penetrating injuries, traumatic or operative, and knees independent of any injury occurring in the course of some other infectious process, or not, may present signs and symptoms not to be distinguished in the absence of bacteriologic examination from the cardinal sign and symptoms of infection. Certain of these cases are undoubtedly infected, but the data at command do not allow these to be distinguished from such as may be due to trauma and those possibly due to toxins secondary to infection elsewhere. The knee joint has certain germicidal powers. One out of every 22 operations on clean knees becomes sufficiently infected to demand operation (4.6 per cent.). One out of every 9 operations for recent (5 days) traumatic non-penetrating injury becomes sufficiently infected to demand operation (11 per cent.). One out of every 35 operations for pathologic conditions other than traumatic injuries more than five days old becomes sufficiently infected to demand operation and drainage of the joint (2.9 per cent.). One out of every 22 operations for simple fracture of the patella becomes sufficiently infected to demand operation (4.6 per cent.). One out of every 71 operations for fracture of the patella done after the fifth day becomes sufficiently infected to make operation a necessity (1.2 per cent.). One out of every 9 or 10 operations for fracture of the patella done before the fifth day becomes sufficiently infected to demand operation (10.5 per cent.). Three out of every five cases of penetrating injury to the knee joint become sufficiently infected to require operation (60 per cent.). Of compound fractures of the patella, seven out of nine become sufficiently infected to demand operation (78 per cent.). Certain knees subjected to non-penetrating injury and not operated on become sufficiently infected to require operation (10 per cent. of the operative septic cases). Certain knees become sufficiently infected to require operation where no history of trauma or other evident septic focus in the body exists (13 per cent. of the operative septic cases). Certain knees become sufficiently infected to require opening and draining the joint in the course of some evident focus of infection elsewhere in the body (11 per cent. of the operative septic cases). One out of every nine patients with infected knees which have been opened and drained dies (11 per cent.; some after previous amputation). One out of every fifteen patients with infected knees which have been opened and drained comes to amputation before recovery (6.6 per cent.). One out of every thirty-one infected knees which have been opened and drained is resected (3.3 per cent.). Most knee joints which have been infected, opened, drained, and recovered show varying degrees of functional disability, from slight limitation of motion to complete ankylosis, with or without subluxation. The average stay in the hospital of a patient operated on for infected knee joint is between two and three months. When it is once determined to open and drain the joint, the operation should be as radical as possible at the start. The position of the leg should be that giving the best mechanical drainage, i. e., the patient should be face down. The risk of infection is greatest in penetrating wounds of the knee (60 per cent.). The risk of infection is least in operations on clean knees and where there has been no recent trauma (3 to 4 per cent.).

International Clinics, Philadelphia. Vol. III.

42 Therapeutic Uses of the Roentgen Rays or Radiotherapy. G. C. Johnston, Pittsburg.
43 Action of Metallic Ferments on Metabolism, and Their Effects in Pneumonia. A. Robin, Paris, France.
44 Musculo-Tonic and Diuretic Action of Formic Acid and the Formates. H. Huchard, Paris, France.
45 Symptomatic Treatment of Tuberculosis. N. P. Barnes, Washington, D. C.
46 Opotherapic Treatment of Renal Insufficiency. Teissier, Paris, France.
46½ Serumtherapy. J. W. Wainwright, New York.
47 Mucous Colic or Membranous Colitis. A. McPhedran, Toronto, Canada.
48 Injuries and Lesions Following the Toxic Use of Alcohol. T. D. Crothers, Hartford, Conn.
49 Ulcer of the Stomach, with Contractions in a Boy Aged Fourteen Years; Cerebral Hemorrhage and Lumbar Puncture; Curable Albuminuria. J. A. Robinson, Chicago.
50 Addison's Disease. E. F. Wells, Chicago.
51 Case of Chronic Jaundice and Great Enlargement of the Liver, Due to Primary Carcinoma of the Extrahepatic Bile Ducts, Commencing at the Junction of the Hepatic Ducts. F. P. Weber and E. Michels, London.
52 Fractures of the Patella. J. S. Wight, New York.
53 Paraffin Injections by the "Cold" Process. M. Broeckaert, Ghent, France.
54 Ethyl Chlorid: Its Value as a General Anesthetic. T. D. Luke, Edinburgh, Scotland.
55 Differential Diagnosis of Tumors of the Right Hypochondrium. Th. Tuffier, Paris, France.
56 Acute Anterior Poliomyelitis with Special Reference to the Stage of Invasion. S. Brown, Chicago.
57 Paralysis Agitans; Hemiplegia; Combined Sclerosis and Ataxic Paraplegia; Locomotor Ataxia; Acute Confusional Insanity. D. E. Brower, Chicago.
58 Syphilitic Necrosis of the Frontal Bone. A. H. Ohmann-Dumesnil, St. Louis, Mo.
59 Treatment of Hay Fever and Asthma. C. H. Knight, New York.
60 Carbonic Acid Gas Application in Rhinitis. A. Rose, New York.
61 Major Trauma of the Eye in General Practice. W. T. Shoemaker, Philadelphia.
62 Gonorrhea and Conjunctivitis. W. G. Sym, Edinburgh, Scotland.
63 Cirrhosis of the Liver. R. Kretz, Vienna, Austria.

American Journal of Orthopedic Surgery, Philadelphia.

October.

64 Conclusions Drawn from a Comparative Study of the Feet of Barefooted and Shoe-Wearing Peoples. P. Hoffmann, St. Louis.
65 Patterns of the Spinal Cord Curve of Patients with Pott's Disease Wearing Plaster Jackets. A. Thorndike, Boston.
66 Two Cases of [illegible] D. Napier, Boston.
67 Desirability of [illegible] Hip Dislocation in Infancy. B. [illegible]
68 Study of the Anatomy of Congenital Dislocation of the Hip [illegible] Reduction. N. Allison, St. Louis.
69 [illegible] of the Hip. Stitching the Capsule [illegible] Head. E. H. Bradford, Boston.
70 Achillotomy and Fasciotomy in a Patient Seventy-Two Years Old. A. R. Shands, Washington, D. C.
71 Report of the Adult Ward of the Hospital for the Ruptured and Crippled for the First Two Years Ending March 1, 1905. *V. P. Gibney, New York.*

Iowa Medical Journal, Des Moines.

October.

72 Two Eye Diseases of Children of Interest to the General Practitioner. H. C. Moffett, Clinton, Iowa.
73 Gastric Ulcer. F. E. Walter, Worthington, Minn.
74 Pneumonia: Its Rational Successful Treatment. W. C. Abbott, Chicago.

Virginia Medical Semi-monthly, Richmond.

October 7.

75 Appendiceal Abscess, Pathology and Treatment. S. M. Mason, Clarksburg, W. Va.
76 Appendicitis, when to Operate. J. B. Catlett, Staunton, Va.
77 Mastoiditis. J. G. Parsons, Brookings, S. D.
78 Diagnosis of Pregnancy at Term. G. Baughman, Richmond.
79 Important Changes in the New Pharmacopeia. F. M. Reade, Richmond.
80 Principles of Surgery. S. McGuire, Richmond.
81 Epilepsy. J. W. Selman, Greenfield, Ind.

Texas State Journal of Medicine, Fort Worth.

October.

82 Cure of Leprosy. I. Dyer, New Orleans.
83 Pathogeny of Fever. J. W. McLaughlin, Austin, Texas.
84 X-Ray Treatment of Skin Cancer, Lupus and Keratosis. J. M. Martin, Hillsboro, Texas.
85 Importance and Advantage of Immediate Repair of Lacerations Occurring During Childbirth. J. M. Frazier, Belton, Texas.
86 Repair of Injuries to Birth Canal. M. L. Moody, Greenville, Texas.
87 Observation on the Treatment of Trachoma. T. F. Roberts, Paris, Texas.
88 Treatment of Ectopic Pregnancy. H. K. Leake, Dallas, Texas.
89 Treatment of Exophthalmic Goiter. R. W. Nobles, Temple, Texas.

Northwestern Lancet, Minneapolis.

October 15.

90 Forms and Etiology of Suppurative Processes in the Abdominal Cavity. A. C. Behle, Salt Lake City.
91 Pathology of Suppurative Processes in the Abdomen. J. F. Critchlow, Salt Lake City.
92 Diagnosis of Suppurative Processes in the Abdominal Cavity. E. F. Root, Salt Lake City.
93 Treatment of Suppurative Processes in the Abdominal Cavity. H. D. Niles, Salt Lake City.

Denver Medical Times.

October.

94 Prostatitis. M. H. Sears, Denver.
95 Lead Poisoning by Lead Acetate in Therapeutic Doses. J. R. Arneill, Denver.
96 Normal Obstetrics: Management of the Puerperium. T. M. Burns, Denver.

Journal of South Carolina Medical Association, Charleston.

October 21.

97 Should the Radical Cure of Hernia be Attempted by Median Abdominal Section? R. S. Cathcart, Charleston.
98 Imperative Surgery. A. B. Knowlton, Columbia.
99 Remarks on Appendicitis. T. P. Whaley, Charleston.
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too tightly and the dorsal decubitus should be given up as soon as possible. There is also evidence to show that the process of duct infection responsible for ascending parotitis is due to one or other of the following causes: 1. The presence of specific micro-organisms in the buccal cavity, such as the special organisms of mumps, typhoid fever, and probably typhus fever and pneumonia also. 2. An increase in the number or virulence of the normal buccal organisms and especially of the staphylococci. 3. Anything interfering with the quantity or quality of the saliva protectively draining down the duct. Either an actual obstruction, such as a calculus, or an alteration in the saliva secreted, resulting from general ill-health or the administration of drugs may produce this effect.

14. **Physiologic Albuminuria.**—Wright and Ross claim that when it is found that a patient possesses a normal excretory quotient, and that his albuminuria can be abolished by diminishing the hydrostatic pressure on the renal capillaries and by increasing the coagulability of the blood, there is every reason to conclude that the kidney is free from organic disease and that life is no more endangered than it would be if the patient were the subject of urticaria.

15. **Operation for Volkmann's Contracture.**—Rolland describes an operation which he performed on a girl 6 years old for Volkmann's contracture following a fracture of the radius and ulna. The whole left upper limb having been very thoroughly cleaned and compressed on the previous day, an operation was performed a little more than four months after the accident. Anesthesia was produced by ethyl chlorid followed by ether. A tourniquet was applied round the lower third of the arm and an incision was made along the middle third of the radial border of the forearm; the wound was placed slightly in front of the interval between the radial extensors of the wrist and the special extensors of the thumb. The posterior border of the radius can be easily felt in this interval before an incision is made, but a wound over the extensor carpi radialis longior gives a better access to the radius. This tendon and the radial nerve protected by it were drawn forward and the extensor carpi radialis brevoir was retracted in the opposite direction. The radius, having been well cleared of soft parts, was drilled at two points, one and a quarter inches apart, and then a portion of it three-quarters of an inch long was removed by the aid of a small saw. The piece of bone removed extended from the pronator teres insertion to the pronator quadratus; some of the fibers of the former had to be detached from the bone to allow the removal of enough bone. The wound was now covered by a temporary dressing, during the removal of a similar portion of the ulna through a longitudinal incision along its subcutaneous border. Care was taken to divide the ulna an inch higher than the radius so as to prevent cross union by callus. The bone ends were brought together and fixed in apposition by means of fine silver wires, one for each bone. The bones were soft and the wire cut its way out by fissuring the upper ulnar fragment and another hole had to be drilled farther away from the section; this was difficult and it demonstrated the wisdom of drilling the bones before sawing them. The drill holes in the radius had been so directed that when the wire was tightened the lower fragment of the radius rotated into a position of semi-supination. Thus the troublesome fixation of the hand in full pronation was corrected. During the operation it was noticed that the deeper flexors in front of the radius and ulna were firm and fibroid. On removing the tourniquet there was but little bleeding, so the wounds were at once sutured and the limb was enveloped with aseptic dressings and lightly secured in good position on an internal angular splint in order to preserve the semi-prone attitude of the hand. When the operation had been completed, the wrist and fingers could be extended almost, but not quite, into a straight line with the forearm. The splint was long enough to maintain this correction. The operation lasted for forty minutes. After the fourth day passive movements of the fingers were carried out several times daily and the child was encouraged to move the fingers from the first day. When the bones had united, pronation and supination were also practiced diligently and massage also was carefully performed after the ninth day. The child can now use the hand for most things, has a good range of movement in the fingers, a powerful grip, and supination and pronation are very well performed.

17. **Impacted Gallstone in Colon.**—The symptoms in the case reported by Smith did not, at any time, point to gallstone disease. There was some pain across the abdomen in the region of the umbilicus, occasional attacks of hiccough and frequent vomiting. An operation having been decided on, the abdomen was opened in the middle line below the umbilicus. Examination revealed the presence of a mass of adhesions in the region of the gall bladder. A second incision was made through the upper part of the right rectus, and it was found that many bands of adhesions were binding down the transverse colon to the neighborhood of the gall bladder. That part of the colon beyond this point was empty and collapsed. Separation of the adhesions was successful in relieving obstruction. Gauze drains were inserted and the wounds were closed. The patient's condition becoming worse, the colon was again exposed and opened under local anesthesia and a Paul's tube tied in. The patient died shortly afterward. At the autopsy the large intestine was found to be distended as far down as the brim of the pelvis, at which point a gallstone of the size and shape of a hen's egg was found impacted. The transverse colon and the gall bladder were found imbedded in a mass of adhesions and a communication was found between their cavities. The common bile duct was obliterated. Other calculi were found in the gall badder.

Journal of Tropical Medicine, London.

October 16.

21 Treatment of Sprue. D. J. Galloway.
22 Cerebrospinal Fever—Spotted Fever. K. McGahey.
23 Epidemic Infectious Pneumonia, Plague and Influenza in India. G. H. Fink.

Bulletin de l'Académie de Médecine, Paris.

24 (Year LXIX, No. 32.) *Le paludisme en Algérie pendant l'année, 1904. Laveran.

24. **Malaria in Algiers During 1904.**—The French have been masters of Algeria for seventy-four years, but the ravages of malaria recur, in certain seasons, almost as severely as during the first years of their occupancy. About 98,774 cases of malaria were known in 1904, with 7,432 deaths from this cause. The total mortality during the corresponding three months in 1903 was 2,280, while it rose to 9,927 in 1904, mainly due to the recrudescence of malaria. In the French army of 44,065 men, stationed in Algeria, 10,065 cases of malaria were reported, with 47 deaths from this cause. The season was an unusually wet one. The physicians, teachers and public officials in Algeria now have undertaken a campaign of education to teach the people how to avoid malarial infection. It is proposed to introduce the "malaria catechism" used in Corsica. The children there are obliged to learn the answers to a set of questions in regard to malaria, its causes, mode of dissemination and its prophylaxis. Drs. Soulié and Moreau have been instrumental in founding an antimalaria league in Algeria, which is now introducing prophylactic measures on a large scale.

Presse Médicale, Paris.

25 (No. 83, Oct. 14.) Localisation et extraction des projectiles par un procédé basé sur la simple radioscopie. T. Tuffier.
26 Report of IX Congress of Urology, Paris, October 5-7.
27 (No. 84.) *L'hémophilie, Pathogénie et serothérapie. P. E. Weil.
28 *La langue auxiliare, L'Esperanto (artificial, auxiliary language). G. Vitoux.

27. **Effectual Serum Treatment of Hemophilia.**—Weil presents some views in regard to hemophilia which explain its nature. and suggest effectual treatment. His experience has demonstrated to his satisfaction that the lack of coagulation in the blood of hemophilics is not due to the presence of an anticoagulating body. It is the result of the absence or modification of certain substances normally in the blood, such as the coagulating ferment, the fibrin ferment or the thrombase. If traces of these ferments from normal serum are added to a specimen of hemophilic blood, coagulation proceeds as under normal conditions. Hemophilic serum added to normal blood does not affect its coagulation. On the other hand, normal serum added to hemophilic blood causes normal coagulation in the latter. Animal serums have the same action in this respect as human serum, but less intense. In a typical case of

hemophilia with excessive, protracted hemorrhages after slight traumatisms, never spontaneous, intravenous injection of beef serum had a remarkable effect in inducing coagulation in the blood drawn from the finger or elbow. Before the injections blood from a vein in the elbow showed no signs of coagulation until after 25 to 75 minutes, but after intravenous injection of 15 c.c. of beef serum blood from the finger coagulated in 3 minutes, and that from the elbow in from 5 to 10. A week later 10 c.c. of human blood were injected, and by the fifth day coagulation was almost immediate. The interval before coagulation gradually lengthened until in two weeks it was from 20 to 55 minutes. Another intravenous injection of 15 c.c. of beef serum reduced the interval again to less than 8 minutes. This serum treatment or vaccination of the hemophilic blood is only passive. The curative action of the injected serum becomes evident in 48 hours and continues marked for about a week, when it gradually subsides. This passive vaccination is similar to that observed by Widal in his preventive serum treatment of paroxysmal hemoglobinuria. Too large doses produce the opposite effect. Weil concludes by recommending this method of serum treatment, or rather opotherapy, as a preventive measure in case an operation is contemplated on a hemophilic. In the case described the patient had a tooth pulled after an intravenous injection of the foreign serum, and, for the first time in his life, the traumatism of the operation was not followed by excessive and prolonged hemorrhage. His gums did not bleed any more than is usually observed in normal individuals.

28. **International Language: Esperanto.**—THE JOURNAL recently referred to an international congress where all spoke the same language, although 1,500 members had gathered from all parts of the civilized world. This artificial, auxiliary language was invented by a Polish physician, Dr. Zamenhof of Warsaw, in 1887, and Vitoux claims that it is a masterpiece of simplicity and clearness. The dictionary contains only the root words, the thirty affixes that modify them being applied with mathematical exactness to define the sense. The plan of the language is readily understood and three or four months of practice are sufficient to master it. Hachette of Paris publishes, in Esperanto, the *Internacia Scienca Rivuo*, and it is announced that a medical journal, published exclusively in Esperanto, will soon be founded.

Centralblatt f. Chirurgie.

Last indexed page 1452.

39 (XXXII, No. 37.) Improved Technic for Roentgen Control of Corrected Hip-Joint Luxations.—Die Ermöglichung einer genauen Kontrolle reponierter kongenitaler Hüftgelenksluxationen. R. Klapp.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1283.

40 (XXIX, No. 37.) *Pyonephrose, Pyelitis und Harnleiter-Kompression während der Gravidität. A. Sippel.
42 Zur Technik der Sterilisierung der Frau (of women). M. Kirchhoff.
43 Ein neues Instrument zur Ventrifixation des Uterus. J. Rudolph.

40. **Pyonephritis, Pyelitis and Compression of Ureter.**—A woman of 33, in the sixth month of her first pregnancy, was attacked suddenly with violent pains in the left side of the back, and fever. The urine showed no marked changes, but other signs indicated a tumor in the kidney region, and the operation revealed pyonephrosis. The cause was assumed to have been compression of the left ureter by the gravid uterus, and the patient was ordered to lie exclusively on the right side. Recovery was prompt and the pregnancy continued undisturbed to term. Sippel ascribes greater importance to compression of the ureter than is generally accepted nowadays. Abrupt compression might induce troubles leading even to eclampsia, without permanent enlargement of the ureter sufficient to attract attention at the autopsy. Systematic reclining on the sound side, supplemented with the usual measures, will frequently avert or banish disturbance from this compression pyelitis. If all fails, then the uterus should be emptied. Compression of the ureter should be suspected when fever and sudden pain develop during a pregnancy. In some cases, appendicitis has been diagnosed, but the appendix region was found sound at the operation and the disturbances persisted until expulsion of the fetus, when they subsided. The compression may interfere with the circulation into and out of the kidney, and relief may be obtained by decapsulation, as Edebohls has reported in a case of eclampsia.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

44 (XXXI, No. 38, September, 21.) *Die praktische Durchführung [illegible] (technic of over-pressure anes- [illegible]
45 *Kl [illegible] Untersuchung von Gehirnkranken (examination of patients with brain affections). H. Liepmann.
46 Ueber einen Fall von Poliomyelitis anterior acuta mit oculopupillären Symptomen. A. Clopatt.
47 *Ueber Colitis mucosa (Enteritis membranacea) und Colica mucosa. H. Elsner.
48 *Ueber den Zickzackschnitt bei der Appendicitis operation (zigzag incision). Riedel.
49 *Ueber Hodengangrän bei Gonorrhoe (gangrene of testicle). A. Buschke.
50 *Ueber Bolusverbandstoffe (dressings of fuller's earth). Aufrecht.

44. **Improved Technic for Over-pressure Anesthesia.**—The head of the patient is enclosed in an air-tight glass box, to which compressed air is supplied. The arms of the anesthetist are inserted into the box through openings, with an air-tight rubber cuff fitting around the wrist. There are also additional openings for the arms of an assistant. The illustration gives a view of the combination of the compressed-air apparatus, with the chloroform-oxygen apparatus which supplies mixed chloroform and oxygen for the anesthesia. Both apparatus have been simplified and improved. The introduction of a bellows tank provides a reservoir for the compressed air. A manometer shows the varying pressure, while the register of a second manometer shows the constant pressure in the box in which the patient breathes. There is also a glass bell, in which hangs a rubber bag, in direct communication with the breathing box; this bag is subjected inside and outside to the same pressure as the patient's lungs.

45. **Minor Aids to Examination of Patients Presenting Brain Troubles.**—Among the minor points to which Liepmann calls attention is the danger of incorrectly diagnosing apraxia in cases of paralysis from a focus in the cortex. This is especially liable to occur when there is simultaneous aphasia. In examining such a patient, one is liable to accept mental impairment from the lack of the proper response. This error can be avoided by systematically seeking for some group of muscles which is not affected. The patient may be able to respond correctly with the muscles of the leg or face when the failure to respond correctly with the hand might be interpreted as due to inability to understand the orders given. Another means is by asking a nonsensical question, such as "Has an eagle wings? Has a horse wings?" the expression of the patient's face answering the question as plainly as words. To determine hemianopia, he strews some beans on the table, without the patient noticing it, and then asks him to pick them up. If he picks them all up, not much is learned, but if he overlooks all on his left side a defect on that side is more than probable. Another point is that persons unable to read words are yet sometimes capable of reading figures. Another good test for mind blindness is to have the patient pick up grains of different sizes strewn on a table. The smallest size perceived is an indication of the visual capacity. Congenital may be differentiated from acquired color blindness by the lack of hesitation in sorting out articles of different colors. In testing cases of perseveration, only the first response in each series of tests can be regarded as demonstrative. He gives a number of means to test apraxia, and lays special stress on the natural actions of the patient, how he combs and brushes his hair, takes up a glass of water to drink when he is thirsty or greets a friend—the information thus derived is more important than that obtained when the patient performs the same actions on command.

47. **Membranous Enteritis.**—Elsner's article issues from Boas' clinic. He believes that colitis mucosa and colica mucosa are neuroses affecting the secretion of mucus. They are generally accompanied by other nervous symptoms, and the patients usually notice that the pains and evacuation of mucus follow psychic excitement. The secretion of mucus may be subject to nervous influences in other organs, as we witness in membranous dysmenorrhea and in croupous bronchitis. This nervous hypersecretion generally develops on the basis of some catarrhal intestinal affection. He describes the postmortem findings in 2 cases and reviews what has been published on the

been done, the patient suddenly stopped breathing and the pulse became imperceptible, but both were restored by two minutes of artificial respiration. On account of the necessary manipulations for this, the asepsis of the field was dubious, and consequently the soft parts were held back with a roll of gauze on each side and the skin was sutured over them. Three days later the operation was continued and the removal of the tumor then proved an easy task. Among the conclusions drawn from this experience is the refutation of the assumption that intradural tumors are necessarily small. Also that the injury from the tumor is liable to be felt more seriously in the part of the spinal cord opposite to the tumor than in the part directly contiguous to it. The patient in the present case recovered so completely that her right arm is now stronger than the left, notwithstanding its long paralysis. The operation was undertaken about eleven months after the first symptoms of trouble had been noted. Operating in two sittings was possibly one of the main factors in the success obtained.

63. **Cryoscopy of Blood and Serous Fluids.**—This article by Cohn contains the bibliography of the subject, in addition to extensive personal research. He found the freezing point of normal blood between —0.517 and —0.562 C. He noted that it was frequently abnormally low in chronic nephritis and generally so in uremia and leukemia. In febrile affections it was abnormally high. Contrary to what is observed in animals, inflammatory fluids in the pleura, peritoneum, spinal cord or brain are not isotonic with the blood serum in man. He was unable to find any particular molecular concentration of the blood characteristic for any special kind of nephritis.

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73 *Ueber Cytorrhyctes luis Siegel. R. Freund.
74 Neue Operations-Methode bei Lid-Defekten und -Ektropium durch freie Plastik aus der Ohrmuschel (from ear muscle). *Elter and Haass.*
75 Ueber einen einfachen Ersatz des elektrischen Vierzellenbades (simple substitute for electric "4-cell bath"). H. Winternitz.
76 Zur Kenntnis der tiefliegenden para-artikulären Lipome. H Mohr.
77 Kalium-Permanganat als billiges lokales Hamostaticum. H. Vörner.
78 Typhusbazillus und bacillus fæcalis alcaligenes. H. Conradi.
79 Medical Training, etc., in Japan.—Aerztliches vom japanischen Kriegsschauplatz. v. Pezold.
80 Das Kugelpessar (ball pessary). Scheumann.
81 *Zur Behandlung gynäkologischer Erkrankungen durch Thiosinamin. Offergeld.

69. **Periarteritis Nodosa.**—Versé has been able to find only 20 cases of this affection in the literature. Men between 20 and 35 were principally affected, but the disease has been observed in an infant under 3 months and in one man of 52. The course is always more or less acute, terminating fatally in three or four months. He describes the history and findings in a typical case personally observed. Signs of old nephritis were found and a peculiar affection of the smaller arteries in the liver, mesentery, intestine, stomach and spermatic cord, characterized by the formation of small spindle-shaped or round aneurisms, with thrombosis of the vessels affected. In 5 of the published cases syphilitic antecedents were certain, and Schmorl has reported one in which the multiple lesions entirely retrogressed under antisyphilitic treatment. At the autopsy years later, the vessels were found normal, but in the liver, kidneys and heart traces of the old affection could be detected in the form of minute fibrous foci closely related to the vessels. Periarteritis nodosa may thus be regarded as a special form of syphilis of the blood vessels.

70. **Nasal Diphtheria with Scarlet Fever.**—Uffenheimer describes a fatal case of what appeared to be diphtheria affecting the nose during the last stages of scarlet fever. He argues that it was not true diphtheria and that the membrane formation was exclusively the work of the scarlet fever infection. He calls the condition nose diphtheroid, with scarlet fever. A very few non-virulent diphtheria bacilli were found in the midst of countless numbers of streptococci.

71. **Treatment of Suppuration in Maxillary Sinus.**—Strubell takes two maxims as his guide: To rinse only so long as the patient tolerates it without objecting, and to reject all radical measures which leave a permanent communication between the mouth and the sinus. He describes his methods and technic in detail.

subject, affirming, in conclusion, that there are no grounds for the assumption that membranous enteritis is a special affection *sui generis.*

48. **Zigzag Incision in Appendicitis.**—Riedel's motto now is: "Operate on a patient with appendicitis as soon as you see him." He protests against the term "early operation" and claims that it should be called the "proper operation." The tumor should not be directly cut into, and for this reason he prefers what he calls the zigzag incision. He has had a mortality of 7 per cent. in 357 cases, and states that 19 out of the 21 deaths might have been prevented if the patient had applied to a physician earlier.

49. **Gangrene of Testicle After Gonorrhea.**—Buschke knows of only 17 cases of gangrene of the testicle after gonorrhea. In the case personally observed, the gonorrhea was mild, but the inflammation in the testicle progressed to gangrene. The patient was a robust man of 27. A bacillus resembling the colon bacillus was cultivated from the secretions, and Buschke believes that the gangrene was a secondary process. Gonococci have not been found in the gangrene to date. Trauma seems to afford a predisposition.

50. **Dressings of Fuller's Earth.**—Aufrecht is enthusiastic in regard to the advantages of fuller's earth as a dressing for wounds. It is slightly astringent, sucks up the secretions and prevents putrefaction, all qualities of the ideal dressing. The best way in which to use it is with gauze impregnated with it; the gauze is first treated with an ammoniacal soap, with or without a small proportion of salicylic acid or aluminum acetate. The absorbing power of gauze thus impregnated with fuller's earth is three times that of ordinary gauze, while its antiseptic properties, he claims, are superior to those of iodoform.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1528.

51 (LXXVII, Nos. 4-6.) Zur Frage der Choledochotomie. A. Brüning.
52 Zur Kenntnis der congenitalen Sacral-Tumoren. K. Frank.
53 Ueber eine besondere Form der Infraction: die Faltung der Knochen-Corticalis. H. Kohl.
54 Zur Lehre von osteoplastischem Carcinom. M. Matsuoka.
55 *Ueber [illegible] nach Extraction von Nerven we[illegible] G. Perthes.
56 Die [illegible] r Perityphlitis. R. Michaelis (Trendelenburg's clinic, Leipsic).
57 *Fractures of Pelvis.—Die Beckenbrüche mit Bemerkungen über Harnröhren- und Harnblasen-Zerreissungen. P. Stolper.
58 "Zwei Dünndarmschlingen" in eingeklemmten Bruch (2 loops in incarcerated hernia). C. Lauenstein.
59 Pressure Stasis and Hemorrhages.—Ueber Stauungsblutungen durch Rumpf-Compression (traumatische Stauungsblutungen). P. Sick.
60 Suture of Left Ventricle for Bullet Wound.—Schuss durch die linke Herzkammer. Herznaht. Tod durch Peritonitis. R. Rothfuchs.
61 Successful Resection of 118 Inches of Ileum.—Resektion von 3 m. Ileum wegen Volvulus und innerer Einklemmung. R. Göbell (Kiel).

55. **Regeneration of Nerves.**—Perthes describes the particulars of a case of recurring trigeminal neuralgia in which five different operations for its relief had been done. The patient finally succumbed to the progress of a valvular defect, and the autopsy revealed regeneration of the nerves where the Gasserian ganglion had been extirpated, and also after the various resections and other operations on the nerves involved. In a second case the neuralgia recurred after a Thiersch operation on the nerve, but was abolished again by removal of the regenerated nerve. Experiments on dogs are reported which show that regeneration of a nerve was almost certain to occur after a few months, when it was merely resected, while the mere severing of the nerve, with the interposition of a gold filling between the ends of the stumps in the infraorbital canal, prevented regeneration. The experimental results observed promise good results in man from the use of a dentist's filling to plug the canal in the bone after severing or extracting the inferior infraorbital or alveolar nerve.

57. **Fractures of Pelvis.**—Stolper's collection of fractured pelves now numbers 33, while the clinical cases observed bring the total to 64. He is convinced that many fractures of the pelvis are not recognized, and describes the points useful in diagnosis. It is difficult and sometimes impossible to diagnose a concomitant rupture of the bladder; consequently all dubious cases should be sent at once to a surgical hospital. Exploratory laparotomy is more than justified, and fine results were attained in the 50 cases on record in which a ruptured bladder received operative treatment. Stolper's article fills nearly 100 pages, and presents the subject from every point of view, with special reference to injuries of the urethra and bladder.

Mitteilungen a. d. Grenzgebieten, Jena.

Last indexed page 1285.

62 (XV, Nos. 1-2.) *Ueber einen grossen, intraduralen Tumor des Cervikal-Markes, der mit Erfolg exstirpiert wurde (successful removal of large tumor of spinal cord). S. Auerbach and Brodnitz.
63 *Ueber Gefrierpunktsbestimmungen des Blutes und seröser Körperflüssigkeiten (cryoscopy). T. Cohn.
64 *Welche Aussichten bestehen für eine Früh-Diagnose der Intestinal-Carcinome (prospects of early diagnosis)? I. Boas.
65 Artificial Hyperleucocytosis to Enhance Resisting Powers, and Study of Action of Subcutaneous Injections of Yeast Nucleic Acid in this Respect.—Künstliche Hyperleukocytose als Mittel zur Erhöhung der Widerstandskraft des Körpers gegen operative Infektionen. Renner.
66 Peptisches Geschwür nach Gastroenterostomie mit Bildung von Magen-Colon-und Colon-Jejunum-Fisteln; vollständiger Verschluss der Gastroenteroanastomose (peptic ulcer with fistulas and closure of gastroenteroanastomosis). J. Kaufmann (New York).
67 *Zur Kenntnis der Osteogenesis imperfecta congenita und tarda (sogen, idiopathische Osteopsathyrosis). E. Looser.
68 *Guajacol zur Behandlung der Nieren-Tuberkulose (of kidneys). Max Schüller.

62. **Successful Removal of Spinal Tumor.**—The patient was a robust young woman, previously healthy, who suddenly experienced violent pains in the back of the neck and in the right arm. Symptoms of right radial paralysis developed with other indications of compression of the cervical spinal cord. Tentative antisyphilitic treatment produced no effect and the affection continued a gradually progressive course. In pachymeningitis, the radial domain is generally spared, while the trouble is usually bilateral and several roots are involved. The absence of vasomotor or trophic symptoms in this case spoke against syringomyelia. Differentiation from caries was more difficult, as some of the symptoms suggested it, also the predominance of motor over sensory disturbances, the comparatively rapid involvement of the other side (after six months), and the rigid way in which the head was held. Arguments against caries were found in the lack of any indications of tuberculosis or of a tendency to a hump or to protrusion of the rear wall of the throat, and also the normal temperature during the eight weeks of observation. Roentgen findings were negative. Abrupt pressure of the head in the direction of the spine did not cause the violent pain common to spondylitis, and extension gave no relief. As the highest muscles unmistakably affected with atrophy were the supraspinal, the upper edge of the tumor was supposed to reach the fourth cervical segment at least, possibly also the third and second. This was suggested by the zones of hyperesthesia which reached to the edge of the hair at the back and in front almost to the margin of the lower jaw. In this region the patient also located her most violent pains, although they sometimes extended into the back of the head and to the temples and brow. She also complained of pains in the left middle intercostal spaces, but these were disregarded in the diagnosis. It was assumed that the tumor probably extended downward to the eighth cervical segment, on account of the participation of the smaller muscles of the hand and the eye symptoms. Engravings of the tumor are given in natural size and colors. It was 6.5 cm. long by 1.5 to 2.25 cm. wide and 1 cm. thick, of rather solid consistency. It surrounded the spinal cord like a mantle, and its upper portion lay for 2.5 cm. beneath the atlas and axis. It was only lightly adherent to the arachnoid, and it slipped out from beneath the unopened atlas on gentle traction. Its removal was followed by a gush of blood-stained fluid, but this was soon arrested by lowering the head of the table and tamponing. The tampon was removed in a few minutes, and it was seen that the flattened spinal cord had resumed its cylindrical shape. Seven catgut stitches were taken in the dural sac, and a strip of gauze brought out through the wound which was sutured with catgut in tiers. No symptoms on the part of pulse or respiration were observed during the ablation of the tumor. The patient rapidly recovered, the paralysis and atrophy promptly subsiding; the muscles first affected regained function first. The eye symptoms, however, persisted unmodified. The incision extended from the atlas to the first dorsal vertebra, and the spine was carefully dissected free from the soft parts. When this had

been done, the patient suddenly stopped breathing and the pulse became imperceptible, but both were restored by two minutes of artificial respiration. On account of the necessary manipulations for this, the asepsis of the field was dubious, and consequently the soft parts were held back with a roll of gauze on each side and the skin was sutured over them. Three days later the operation was continued and the removal of the tumor then proved an easy task. Among the conclusions drawn from this experience is the refutation of the assumption that intradural tumors are necessarily small. Also that the injury from the tumor is liable to be felt more seriously in the part of the spinal cord opposite to the tumor than in the part directly contiguous to it. The patient in the present case recovered so completely that her right arm is now stronger than the left, notwithstanding its long paralysis. The operation was undertaken about eleven months after the first symptoms of trouble had been noted. Operating in two sittings was possibly one of the main factors in the success obtained.

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75 Ueber einen einfachen Ersatz des elektrischen Vierzellenbades (simple substitute for electric "4-cell bath"). H. Winternitz.
76 Zur Kenntnis der tiefliegenden para-artikulären Lipome. H Mohr.
77 Kalium-Permanganat als billiges lokales Hamostaticum. H. Vörner.
78 [illegible] lus fæcalis alcaligenes. H. Conradi.
79 [illegible] in Japan.—Aerztliches vom japanis- [illegible] v. Pezold.
80 Das Kugelpessar (ball pessary). Scheumann.
81 *Zur Behandlung gynäkologischer Erkrankungen durch Thiosinamin. Offergeld.

69. **Periarteritis Nodosa.**—Versé has been able to find only 20 cases of this affection in the literature. Men between 20 and 35 were principally affected, but the disease has been observed in an infant under 3 months and in one man of 52. The course is always more or less acute, terminating fatally in three or four months. He describes the history and findings in a typical case personally observed. Signs of old nephritis were found and a peculiar affection of the smaller arteries in the liver, mesentery, intestine, stomach and spermatic cord, characterized by the formation of small spindle-shaped or round aneurisms, with thrombosis of the vessels affected. In 5 of the published cases syphilitic antecedents were certain, and Schmorl has reported one in which the multiple lesions entirely retrogressed under antisyphilitic treatment. At the autopsy years later, the vessels were found normal, but in the liver, kidneys and heart traces of the old affection could be detected in the form of minute fibrous foci closely related to the vessels. Periarteritis nodosa may thus be regarded as a special form of syphilis of the blood vessels.

70. **Nasal Diphtheria with Scarlet Fever.**—Uffenheimer describes a fatal case of what appeared to be diphtheria affecting the nose during the last stages of scarlet fever. He argues that it was not true diphtheria and that the membrane formation was exclusively the work of the scarlet fever infection. He calls the condition nose diphtheroid, with scarlet fever. A very few non-virulent diphtheria bacilli were found in the midst of countless numbers of streptococci.

71. **Treatment of Suppuration in Maxillary Sinus.**—Strubell takes two maxims as his guide: To rinse only so long as the patient tolerates it without objecting, and to reject all radical measures which leave a permanent communication between the mouth and the sinus. He describes his methods and technic in detail.

73. **Cytorrhyctes Luis.**—Freund regards it as very remarkable that the announcement of the discovery of spirochetes in syphilis has attracted such widespread attention, while Siegel's announcement in regard to the finding of the *Cytorrhyctes luis,* at about the same time, has passed almost unnoticed. Freund has confirmed Siegel's findings in nearly a dozen cases of syphilis, and has succeeded in inoculating animals with the cytorrhyctes. He found them in enormous numbers in his cases, corresponding to from 3,000 to 5,000 in a single drop of blood or 60,000,000 in a liter of blood. The extreme contagiousness of syphilis can be explained only by assuming that the causal germs are present in every drop of blood. Siegel's bodies are flagellates, and the blood corpuscles near them sometimes rock a little as if set in motion by the action of the flagella. The stains that show tne spirochetes are the best ones for the cytorrhyctes also, but they can be seen equally well without staining. Siegel's illustrated description appeared in the *Münch. med. Wochft.* for July 11, No. 28, 1905.

81. **Treatment of Gynecologic Affections with Thiosinamin.**—Offergeld gave thiosinamin a thorough trial in 55 cases of various gynecologic affections, but found that it failed to display any power to reduce infiltrations or to soften adhesions or contractures. No benefit whatever was realized in any instance that was not amply explained by the concomitant measures.

Hospitalstidende, Copenhagen.

Last indexed page 1370.

82 (XLVIII, Nos. 28-29.) *Den hyperacide Mavesaft og dens Bestemmelse ved det Sahliske Provemaaltid (hyperacidity and Sahli test meal). V. Rubow.
83 Tilfaelde af kongenit Syfilis med Paavisning af Spirochæte pallida i Lever og Milt (in liver and spleen). A. Bronnum.
84 (Nos. 30-31.) Om Neuro fibril-farvning og Neuro-fibrillernes Forhold i Cortex cerebri ved patologiske Tilstande (staining and behavior of neurofibrils). A. Wimmer.
85 *Om Administrering af Eter-Narkosen. C. Struckmann.
86 (No. 32.) *Om Behandling af tuberkulos Peritonitis. C. A. Dethlefsen.

82. **Hyperacidity and Sahli Test Meal.**—Rubow reviews the experiences during the last five years with 704 patients presenting dyspeptic disturbances treated in Faber's service at Copenhagen. Hyperacidity, *after* an Ewald-Boas test meal, was found in 213. The details of these cases with acidity of 75 or over are given in tabulated form. None showed a total acidity above 125. He thinks that this shows the rarity of actual hyperacidity, as all the cases are explainable by simple hypersecretion. The proportion of hydrochloric acid averaged .44 per cent. Only in three instances did it reach .45 and .46 per cent. Trials of the Sahli test meal gave conflicting findings, even in healthy subjects. He thinks that one source of error is in the rising of the butter to the top of the "flour soup" used for the test. It does not form a homogeneous emulsion.

85. **Ether Anesthesia.**—Struckmann argues that a combination of morphin and ether insures an almost ideal anesthesia without by-effects. He uses the Sudeck mask and a dropper for the ether, and emphasizes the remarkable absence of salivation and secretion when from 1 to 1.5 cg. of morphin was injected one hour before the ether. All his surgical patients during the last six months were anesthetized in this way, and the results far surpassed those observed with any other mode of anesthesia. There was no stage of excitement, and the pulse, respiration and color of the face remained normal throughout. He is convinced that this form of anesthesia avoids all the dangers of other technic, and is far more convenient for both the surgeon and the patient.

86. **Tuberculous Peritonitis.**—Dethlefsen relates the history of a girl of 7 with typical tuberculosis of the peritoneum cured by a median laparotomy. Another case was that of a married woman of 40, with other indications of tuberculosis, accompanying those of typical tuberculous peritonitis. The peritoneal process was arrested by a median laparotomy, and the ascites never returned, but the patient succumbed a year or two later to the progress of her lung affection.

Hygiea, Stockholm.

Last indexed page 666.

87 (LXVII, No. 7, July.) *Till fragen om antidifteriserums dosering. H. Suber.
88 *Post-operative X-Ray Treatment of Cancer.—Om efterbehandlung af opererade maligna svulster med Röntgenbestralning. T. Sjogren.
89 Beidrag till den operativa behandlingen af den Dupuytren'ska finger-kontrakturen. G. Bäärnhielm.
90 "Den Laenneeska" cirrhosen. A. Stromstedt.
91 (No. 8.) Determination of Human Blood in Suspicious Spots.—Om pavisandet af människoblod i misstänkta fläckar.—E. Aspelin.
92 *Oxidizing Ferment in *Infants' Stools.*—*Nagra ord* om et oxiderande Ferment sasom en anledning till uppträdandet af grönfärgade öppningar inom dibarnsaldern. W. Wernstedt.

87. **Dosage of Antidiphtheria Serum.**—Suber tabulates statistics from various countries to sustain his assumption that antidiphtheritic serum should be given in large doses (5,000 to 15,000 units) in the severer cases of diphtheria, irrespective of age. The moderately severe cases can be treated with moderate doses (3,000 to 4,000 units). Intravenous injection in the extremely severe cases has a prompt and certain curative action, without serious by-effects, even when colossal doses are used. He claims that the published statistics show that insufficient doses have been given in many instances. Injection of large doses of the serum also proves effective even against diphtheritic paralysis. He rejoices that the price of the serum has recently been reduced in Sweden, and urges that all the local boards of health and hospitals should be provided with the serum for preventive injections at need, free of cost.

88. **Postoperative Treatment of Cancer with X-Rays.**—Sjögren is now making a practice of *x*-ray exposure after ablation of a cancer in all cases. He has thus treated 10 patients with mammary cancer and 2 with sarcoma, allowing an interval of from one to three months after the extirpation before he commenced the Roentgen exposures. More than six months have elapsed since the sarcoma operations, and there has been no trace of recurrence in any instance. The first case was a sarcoma in the kidney of a girl of 5, and the other a sarcoma originating in the soft parts of the hip in a woman of 21. He thinks that systematic postoperative *x*-ray treatment, to forestall recurrence, is a most promising field.

92. **Oxidizing Ferment as Cause of Green Stools of Infants.**—Wernstedt calls attention to the fact that green stools are distinguished not only by their color, but by the presence of considerable mucus. He thinks it is due to the action of a substance which he has isolated from such stools, and regards as a ferment. It oxidizes guaiacol in presence of hydrogen dioxid, but the reaction does not occur if the stool is first heated to boiling point. The oxidation causes a brownish discoloration which is most marked in the flakes of mucus and is not diffuse. The substance is contained in the mucus and apparently has an oxidizing action on bilirubin. Green stools do not necessarily imply dyspepsia, he says, but may be observed in starving infants and occasionally in those apparently otherwise healthy.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

OFFICIAL LIST of Commissioned and Non-commissioned Officers of the Public Health and Marine-Hospital Service of the United States, also List of U. S. Marine Hospitals, Quarantine Stations, and Quarantine Vessels, July, 1905. Paper. Pp. 30. Washington: Government Printing Office, 1905.

MANUAL OF PATHOLOGY, Including Bacteriology, the Technic of Postmortems, and Methods of Pathologic Research. By W. M. L. Coplin, M.D. Fourth Edition. 495 Illustrations, some in colors. Cloth. Pp. 994. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co., 1905.

MEDICAL REGISTER OF PRINCD EDWARD ISLAND. Printed and Published under the direction of the Medical Council in conjunction with the Prince Edward Island Medical Act. Paper. Pp. 19. Charlottetown: Registration Office.

TECHNIQUE DU TRAITEMENT DE LA LUXATION CONGENITALE DE LA HANCHE, by Dr. F. Calot. Avec 206 figures dans le Texte, et 5 Planches. Paper. Pp. 293. Paris: Libraires De L'Académie de Médecine, 1905.

OPERATIVE SURGERY. [illegible] Practitioners. By J. J. McGrath, M.D. Second [illegible] ations, some in colors. Cloth. Pp. 628. Price, [illegible]: F. A. Davis & Co., 1906.

MEMORANDA ON POISONS. By T. H. Tanner, M.D., F.L.S., Tenth [illegible]. Leffmann, A.M., M.D. Cloth. Pp. 177. [illegible]: P. Blakiston's Son & Co., 1905.

ORIGIN AND TREATMENT OF STAMMERING. By G. A. Lewis. Seventh Edition, Enlarged and Revised. Cloth. Pp. 202. Detroit, Michigan: George Andrew Lewis.

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Original Articles

THE INFLUENCE OF CHRONIC PASSIVE CONGESTION AND CIRRHOSIS OF THE LIVER ON THE CONNECTIVE TISSUES OF THE SPLEEN.*

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BOSTON.

It is well known that in cases of cardiac disease which have caused chronic passive congestion of the abdominal viscera the spleen is usually firmer than normal, unless some complicating acute infectious process has produced an acute splenic tumor. Similarly with cirrhosis of the liver there is generally a firm spleen. In either case the spleen may or may not be larger than normal.

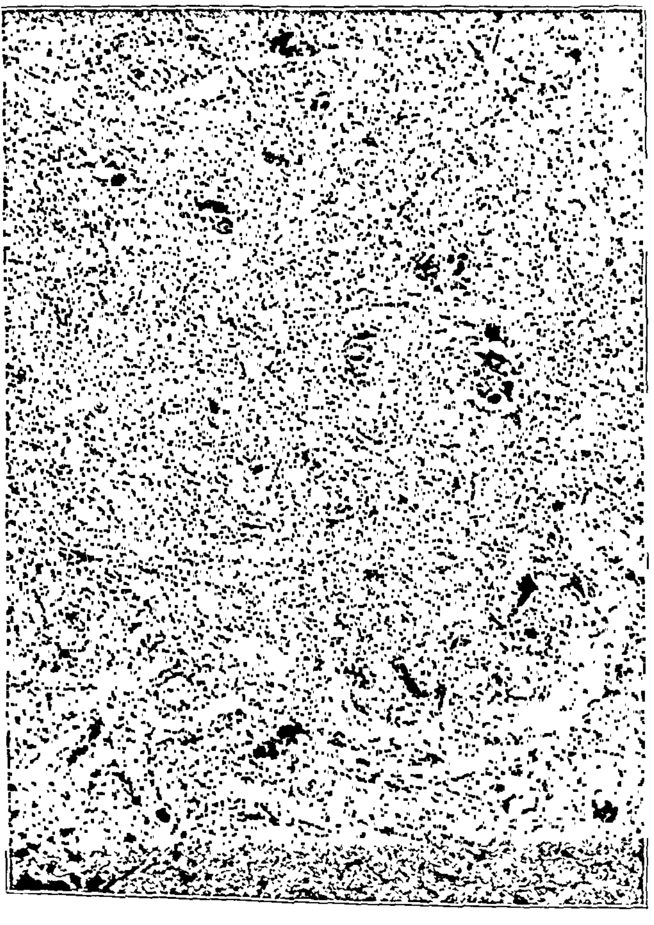

Fig. 1.—Chronic passive congestion. Spleen showing connective tissue increase (x 120 dia.).

The following questions arise in regard to the spleen under these conditions: With this increase in consistence is there an increase in the framework of the spleen? Is the change in the white fibrous and reticular tissue or in the elastic tissue? Is there any difference in the character and distribution of the connective tissues of the spleen in cases with chronic passive congestion or cirrhosis of the liver?

It was thought that these questions might be answered by the study of a series of such cases selected from the autopsy material at the Boston City Hospital since 1901. To be regarded as suitable for this purpose cases had to fulfill the following conditions: The patients must be adults; the autopsies must be made soon enough after death to furnish tissue in good condition for the staining methods used; the cases must be free from infectious processes leading to the production of an acute splenic tumor; and, finally, histologic examination of the liver must show well-marked lesions of chronic passive congestion or cirrhosis. Among 891 cases examined, 38 fulfilled these conditions. From them Zenker-fixed material was imbedded in paraffin, sec-

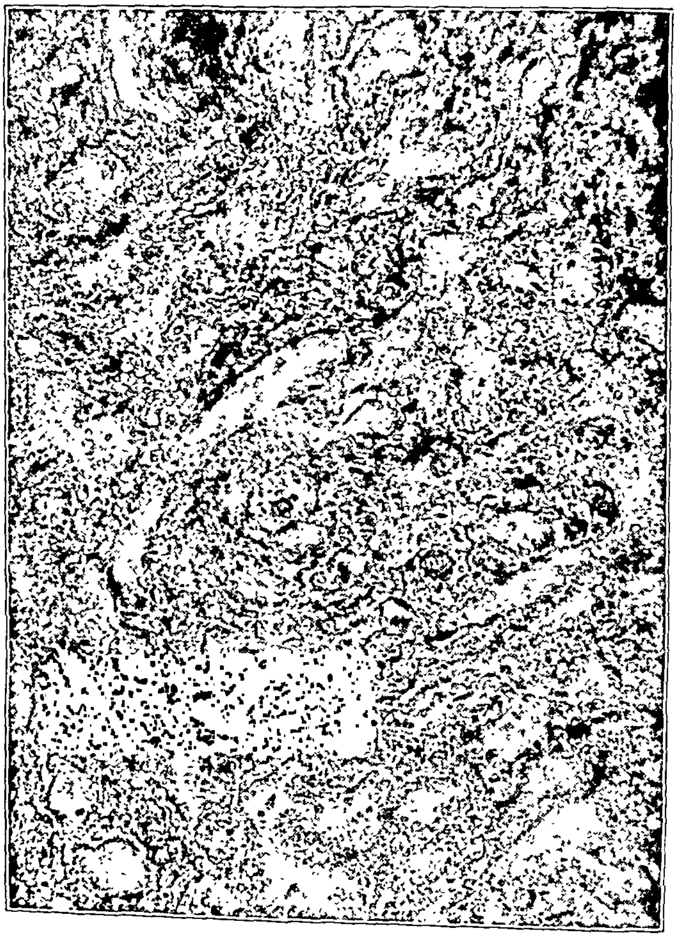

Fig. 2.—Chronic passive congestion. Spleen showing connective tissue increase in pulp (x 250 dia.).

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session,

tioned, and stained with eosin and methylene blue, Mallory's anilin blue connective tissue stain, and Weigert's resorcin-fuchsin elastic tissue stain.*

In the 38 cases selected the livers show either well-marked cirrhosis of the multilobular or monolobular type (atrophic or Laennec's cirrhosis), or chronic passive congestion of an advanced degree. In the latter the central one-third to one-half of the liver lobule is congested with marked atrophy or total disappearance of liver cells. Fibrin thrombi occur frequently in the sinusoids, but do not dominate the picture in any case. In five cases the connective tissue about the central vein is increased in amount (moderate central cirrhosis. Of the cases of cirrhosis none shows a diffuse intralobular distribution of connective tissue (hypertrophic or Hanot's cirrhosis).

In the spleens no lesions of the Malpighian corpuscles occur, though there is some variation in their size. The pulp of the spleen in all cases is relatively poor in cells. The blood sinuses are generally dilated, distinctly demarcated, and usually are lined by a definite layer of low cuboidal endothelial cells. Between the blood sinuses lies a tissue made up of cells of the connective tissue and endothelial types, with a varying number of, rarely many, lymphoid and plasma cells and an occasional leucocyte. Sections with little or no connective tissue increase, as a rule, do not show the sharp distinction between blood sinuses and intervening cellular tissue, and here cells of the connective tissue type are not so prominent.

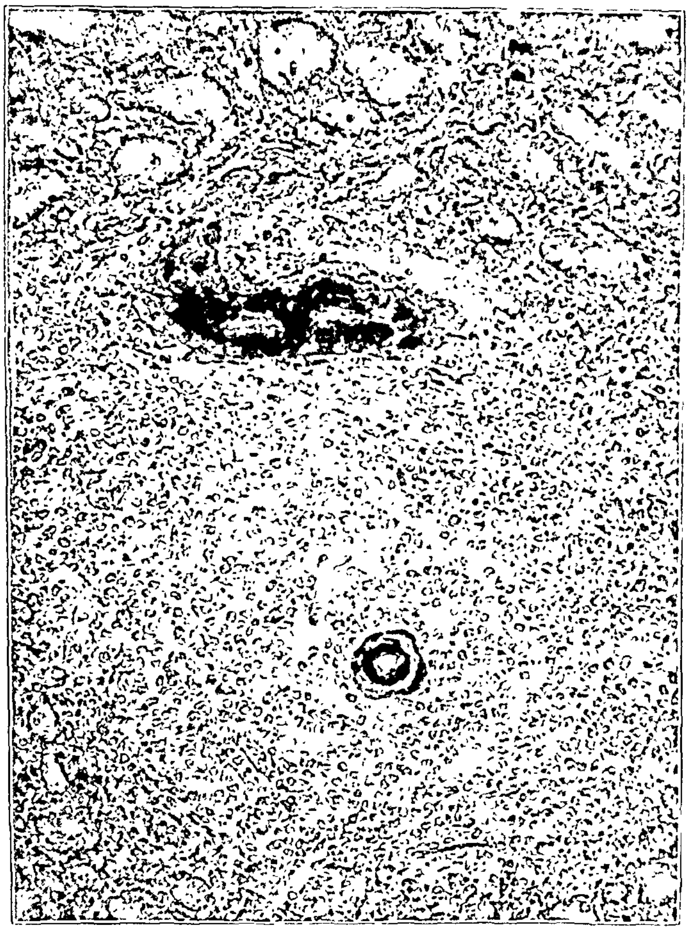

Fig. 3.—Chronic passive congestion. Spleen showing absence of connective tissue increase in Malpighian corpuscle.

The anilin blue connective tissue method stains white fibrous and reticular tissue blue, but does not tinctorically distinguish the two. In the spleen the trabeculæ and walls of larger blood vessels contain white fibrous tissue appearing as bundles of straight or slightly wavy fibrils. Outside of this the supporting framework consists mainly of recticulum, a meshwork of blue-staining fibrils, slight in amount in the Malpighian corpuscles, more abundant in the pulp between the blood sinuses. About the blood sinuses are circular fibrils staining blue, which surround them at very regular intervals.

In the group of 38 cases studied, the white fibrous tissue of trabeculæ and blood vessels presents little or no change. In 10 cases the reticulum is not increased; in 28 it is present in increased amount. As seen in the table, the latter are divided into three groups; nine with considerable, eleven with moderate and eight with slight increase. Both the size and the number of the fibrils is increased.

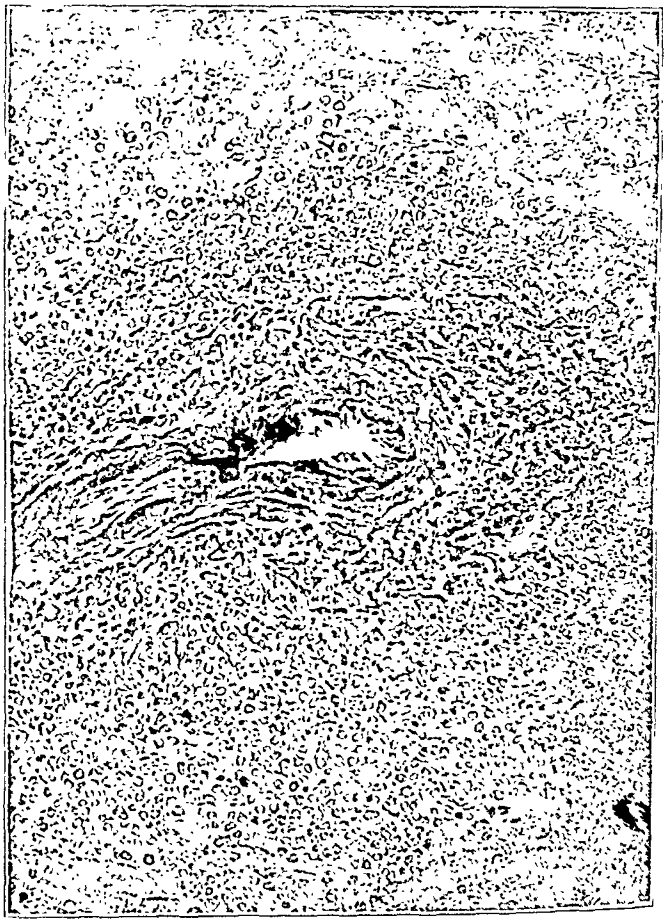

Fig. 4.—Cirrhosis of Liver. Spleen showing connective tissue increase about artery within Malpighian corpuscle.

In the cases of chronic passive congestion, the reticulum of the pulp is increased (Figs. 1 and 2), and there is little change within the Malpighian corpuscles (Fig. 3). In the cirrhosis cases there is a similar increase in pulp reticulum, to which is added an increase about the smaller splenic arteries and within the Malpighian corpuscles (Fig. 4), in cases in which there is a more marked connective tissue increase.

The increase in reticulum is sufficient to explain in part the increased firmness of the spleen under these conditions. The slight difference in its distribution in chronic passive congestion and cirrhosis may add some weight to the view that the changes in the spleen accompanying cirrhosis of the liver are only in part due to simple mechanical hindrance to its circulation.

The elastic tissue in the 38 cases, as demonstrated by the Weigert resorcin-fuchsin method, shows very little change. Elastic tissue is present in the spleen in the capsule and trabeculæ in large amount, and also occurs in the walls of larger blood vessels, and to a slight degree extends from them out into the surrounding splenic tissue. Outside of these places practically none is found, though with overstaining, certain fibers about the sinuses are deeply tinted. However, careful differentiation with absolute alcohol separates these from the typically staining elastic tissue fibers. In a few cases there is a slight increase in the elastic tissue radiating from the blood vessels, but there is no difference in this respect between chronic passive congestion and cirrhosis cases.

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* The technical methods employed here may be found described in Wright and Mallory's Pathological Technique, 3d edition, 1904.

A. CONNECTIVE TISSUES OF SPLEEN NOT INCREASED.

No.	Wt. of Spleen.	Consistence.	Wt. of Liver.	Condition in Liver.
1	275	Firm	1,800	Chr. passive congestion.
2	90	Normal	1,420	Cirrhosis.
3	675	Firm	1,850	Chr. passive congestion.
4	150	Firm	2,490	Chr. passive congestion.
5	285	Firm	2,360	Chr. passive congestion.
6	140	Normal	1,080	Chr. passive congestion and central cirrhosis.
7	245	Firm	1,730	Chr. passive congestion.
8	130	Firm	2,150	Cirrhosis with fatty infiltration.
9	180	Soft	1,850	Cirrhosis with fatty infiltration.
10	180	Normal	2,580	Cirrhosis.
B. CONNECTIVE TISSUES OF SPLEEN SLIGHTLY INCREASED. (From this point cases are arranged in order of degree of connective tissue increase.)				
11	425	Firm	1,860	Cirrhosis.
12	430	Soft	1,750	Cirrhosis.
13	130	Normal	1,625	Chr. passive congestion.
14	170	Firm	1,850	Chr. passive congestion.
15	215	Fairly firm.	2,320	Chr. passive congestion.
16	315	Fairly firm.	1,385	Cirrhosis.
17	140	Firm	1,350	Cirrhosis.
18	200	Firm	1,630	Chr. passive congestion.
C. CONNECTIVE TISSUES OF SPLEEN MODERATELY INCREASED.				
19	620	Firm	720	Cirrhosis.
20	185	Firm	1,660	Chr. passive congestion.
21	605	Firm	985	Cirrhosis.
22	180	Firm	1,540	Chr. passive congestion.
23	190	Firm	1,620	Chr. passive congestion.
24	200	Firm	1,600	Chr. passive congestion and central cirrhosis.
25	175	Firm	2,420	Cirrhosis.
26	260	Firm	1,900	Chr. passive congestion.
27	175	Fairly soft.	3,440	Cirrhosis.
28	225	Firm	2,270	Chr. passive congestion and central cirrhosis.
29	150	Firm	1,860	Chr. passive congestion.
D. CONNECTIVE TISSUES OF SPLEEN CONSIDERABLY INCREASED.				
30	390	Firm	1,760	Cirrhosis.
31	235	Firm	1,430	Chr. passive congestion.
32	400	Firm	1,800	Cirrhosis.
33	155	Firm	1,080	Chr. passive congestion and central cirrhosis.
34	415	Firm	2,000	Chr. passive congestion and central cirrhosis.
35	45	Firm	910	Chr. passive congestion and central cirrhosis.
36	130	Firm	1,750	Cirrhosis.
37	105	Firm	1,400	Chr. passive congestion.
38	75	Firm	1,510	Chr. passive congestion.

SUMMARY.

1. In 38 cases of chronic passive congestion and cirrhosis of the liver, the spleen of 28 (73.6 per cent.) shows an increase in connective tissue framework. Some of the 10 cases with no increase in connective tissue are equally as firm; consequently the firm consistence in these is due to vascular distention rather than to connective tissue increase, and in all cases vascular distention probably plays an important part in producing the firm consistence.

2. The connective tissue increase is mainly a proliferation of the reticular tissue of the pulp with little or no change in the white fibrous and elastic tissue of the organ.

3. Some cases of cirrhosis show in addition to the proliferation in pulp reticulum, an increase in connective tissue about the smaller splenic arteries and within the Malpighian corpuscles.

ETIOLOGY OF PIGMENTOUS SARCOMA OF THE CHOROID.*

PROF. J. HIRSCHBERG.
BERLIN.

The cause of malignant tumors generally, and of the pigmentous sarcoma of the choroid especially, is a mystery to us. It is impossible to find one general cause for all of them. The reason, in my opinion, is that there are different causes in existence for different forms of the disease.

In 1882, I observed and published reports of two cases in which the monolateral congenital pigmentation formed the predisposition to the development of a melanotic sarcoma of the choroid.

The color of the iris in the healthy eye was grayish green; in the other dark brown, and the sclerotica of the dark eye contained around the cornea some large dark violent spots which were congenital according to the decided assertions of the patient.

In the one case, the eyeball was enucleated at once and showed a pigmentous sarcoma of the choroid. The melanoid spots of the sclerotica extended over the equator to the entrance of the optic nerve. They were composed of stretched but normal pigment cells.

In the other case, the affected eyeball had yet a tolerably good vision. Excision was performed two years later, as the vision had gone; seven years later the patient was in good health; nine years after excision death occurred, probably by metastasis.

In another group of cases, a congenital pigment spot in the iris was the cause of a pigmentous sarcoma of the same coat. I had two cases—one in the year 1868, in which excision of the eyeball was performed by my teacher, Albrecht von Graefe. I published a report[1] of the case in the *Archiv. f. Ophth.*, xiv, 3, 1868; it was the first case of melanotic sarcoma of the iris.

I observed the other patient in the year 1894, and operated by iridectomy. The microscope showed sarcoma. After nine years the patient was observed in perfect health, the eyeball blind, but quiet. The report of the case was published by my assistant, Dr. Fehr, last year, in the jubilee volume presented to me.

The third fact is a circumscribed pigment spot in the iris, causing a melanotic sarcoma in the same region of the ciliary body of the affected eyeball. This case is a new one, which I will now describe with some details:

Patient.—A woman, aged 33, presented herself May 2, 1905, with a letter stating that she was suffering from detachment of the retina of the right eye. Seven months previously she had observed that the eye was almost blind.

Examination.—I found the left eye entirely normal. The right one had only a very small eccentric visual field below the fixation point, and could only distinguish the finger at a distance of 35 cm. This eye was free of irritation and hypertension, but showed in the lateral octant of the greenish iris a large yellow-brown spot of trapezoid form, occupying the whole extent of the iris breadth. This spot was congenital, or at least noticed from the first childhood of the patient. Immediately behind the iris, in the same part of the eyeball, to the temporal side, a tumor was visible even by the naked eye of the observer. With focal illumination and the loop I detected a reddish-yellow sarcoma of that region with fine vessels on the surface and some pigment spots. Below the lens there was a dark neoplastic nodule. With the

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*Read in the Section on Ophthalmology of the American Medical Association, at the *Fifty-sixth* Annual Session, July, 1905.

[1] Before my report only a single case of that had been mentioned, but not discussed by Hulke, 1861, vol. iii, p. 280, Ophth. Reports Fr., "Sarcom der Uveal Tractus," 1882, p. 234, has a short remark about that subject, but the cases of Warren, Tay and Kipp, which he mentions, *do not belong to this class.*

ophthalmoscope the optic nerve entrance was visible, and very near to it a detachment of the retina.

Treatment.—As the diagnosis was self-evident, I proposed excision and performed it six days later, the home physicians of the patient having approved of my diagnosis and of the proposed treatment. A fortnight later the patient was discharged.

Pathologic Examination of Eyeball.—Now I come to the anatomic examination of the excised eyeball. The eyeball is

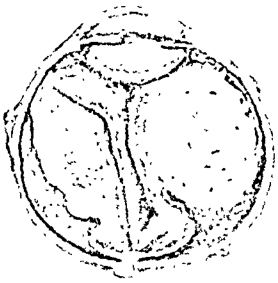
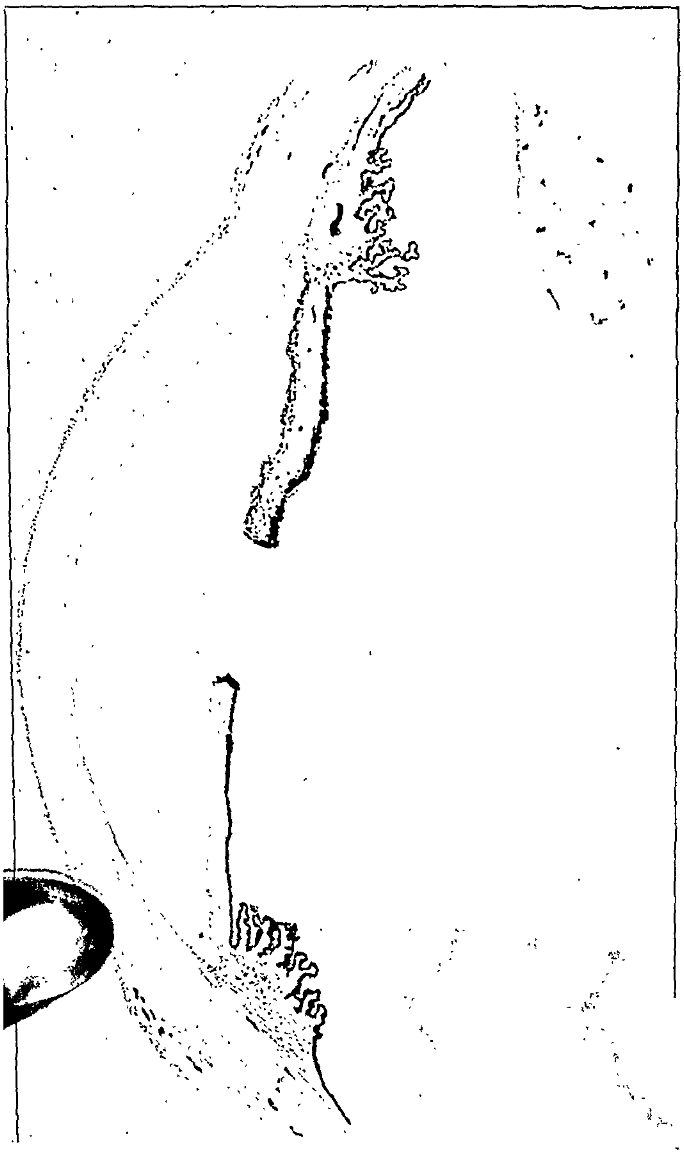


Figure 1.



2.

an

divided by a horizont
half. Figure 1 shows
ber and lens seem norı
nasal side, broader and
is completely detached.
the size of a cherry appear

in the lower half of the globe, one-quarter in the upper half. The cut surface is rather bright and shows several sections of blood vessels or spaces. The lower part of the tumor is not visible in this section, but it appears in a second horizontal division of the lower half of the globe. The tumor starts from the outer lower part of the ciliary body which here is thickened and converted into neoplasm. The middle part of the tumor is firmly adherent to the detached retina; between its posterior part and the retina there is an exudation coagulated by formol. The tumor is a sarcoma made up of small, round and spindle cells, the round cells prevailing; it is poor in pigment and rich in large vascular spaces with only capillary coats. Interstitial tissue is scanty. A fine connective coat surrounds the tumor and adheres to the retina, which also is converted into connective tissue.

In sections which correspond to the width of the pupil, as seen in Figure 2, the neoplasm is separated from its base or foot, but the ciliary body is thickened and interspersed with sarcomatous cells. Such cells are also visible in the wall and in the lumen of the canal of Schlemm.

The iris of the lateral half corresponding to the tumor is intensely pigmented. The yellow-brown pigment is situated in the superficial layer of the stroma, partially extracellular, partially in ramified chromatophore cells. The iris of the opposite side is free of pigment in the whole stroma and contains only the posterior pigment layer.

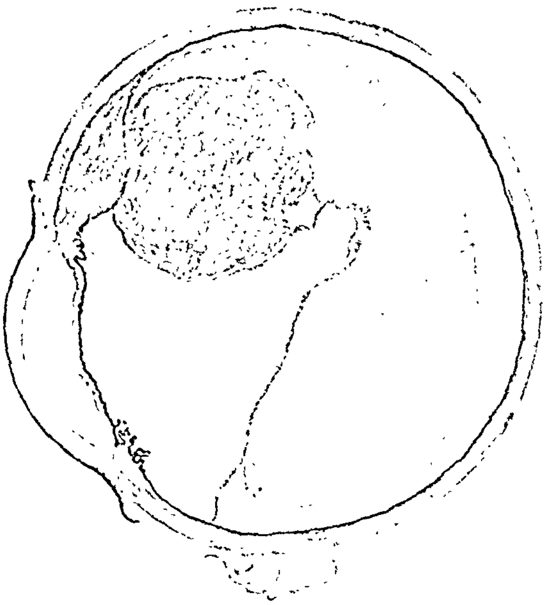


Figure 3.

In the sections which approach to the lower pupillary margin the tumor gradually becomes in touch with the ciliary body (Fig. 3).

In the lower part of the lower half of the globe the whole ciliary body is converted into neoplasm to the root of the iris. This tumor of the ciliary body is spindle-shaped and its upper border perforates the boundary coat and grows freely and fungiform into the subretinal space.

For the microscopic preparations and the able drawings, I am indebted to my first assistant, Dr. Fehr.

We must agree that the tumor started from this part
ciliary body which corresponds to the congenital
e iris.
are very striking; they are not mentioned
and new book of F. Lagrange on tumors
agree with some other facts of the
ce, that *congenital pigment* nevi
ances, are converted into melan-
theory of Cohnheim that con-
groups or persistencies of
the real predisposition to
tumors.

A CASE OF MELANOSARCOMA OF THE CHOROID.*

LEWIS H. TAYLOR, M.D.,
WILKESBARRE, PA.

I wish to report briefly a case of melanosarcoma of the choroid occurring in my practice, because of some of the interesting features connected therewith and the later metastasis to the liver and the death of the patient:

Patient.—Mrs. B, aged about 65, was first seen by me in consultation with her family physician Dec. 22, 1900. The patient was in bed suffering great pain with the left eye, which was much swollen and congested.

History.—Four days previously, in the early hours of the morning, her left eye became suddenly affected with very severe pressing pain. Her physician saw her at the time and during the following forenoon the severe pain passed away, but the eye remained uncomfortable and the sight was gone. The eye was not swollen but looked much the same as the other. When first seen by me it was greatly swollen, tension increased, the iris pushed forward, and the cornea steamy. Her physician had used atropia three times. This was discontinued as the eye was in complete condition of absolute glaucoma, from, as I supposed, intraocular hemorrhage. I changed to eserin. There was also some chemosis of the conjunctiva. Lead water and laudanum lotion was applied. On the following day the eye was more comfortable but very rigid, almost suggestive of panophthalmitis.

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Subsequent History.—This report naturally made us fear an early return of the trouble and gave a very unpromising outlook for the patient, as the experience of others would lead one to expect a return either in situ or in some other organ within a year. In spite of the infiltration of the optic nerve, there was no return of any growth in the orbit. The patient seemed to recover fully her general health, and during the rest of the winter and spring was very well.

I saw her a number of times and fitted the right eye with distance and near glasses, and she could read comfortably. She was somewhat nervous about the right eye, fearing it might also become affected, but it gave her no trouble. She went away during the summer and was fairly well, returned in the fall, and soon after noticed trouble in her right side. This progressed rapidly and she died of sarcoma of the liver Nov. 15, 1901. The orbit remained entirely free from any return of the sarcoma.

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ophthalmoscope the optic nerve entrance was visible, and very near to it a detachment of the retina.

Treatment.—As the diagnosis was self-evident, I proposed excision and performed it six days later, the home physicians of the patient having approved of my diagnosis and of the proposed treatment. A fortnight later the patient was discharged.

Pathologic Examination of Eyeball.—Now I come to the anatomic examination of the excised eyeball. The eyeball is divided by a horizontal section into an upper and a lower half. Figure 1 shows the lower half. Cornea, anterior chamber and lens seem normal. The iris stroma is bright in the nasal side, broader and brown in temporal side. The retina is completely detached. In the subretinal space a tumor of the size of a cherry appears, three-quarters of it being located in the lower half of the globe, one-quarter in the upper half. The cut surface is rather bright and shows several sections of blood vessels or spaces. The lower part of the tumor is not visible in this section, but it appears in a second horizontal division of the lower half of the globe. The tumor starts from the outer lower part of the ciliary body which here is thickened and converted into neoplasm. The middle part of the tumor is firmly adherent to the detached retina; between its posterior part and the retina there is an exudation coagulated by formol. The tumor is a sarcoma made up of small, round and spindle cells, the round cells prevailing; it is poor in pigment and rich in large vascular spaces with only capillary coats. Interstitial tissue is scanty. A fine connective coat surrounds the tumor and adheres to the retina, which also is converted into connective tissue.

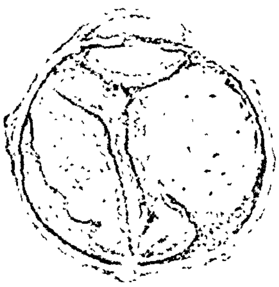

Figure 1.

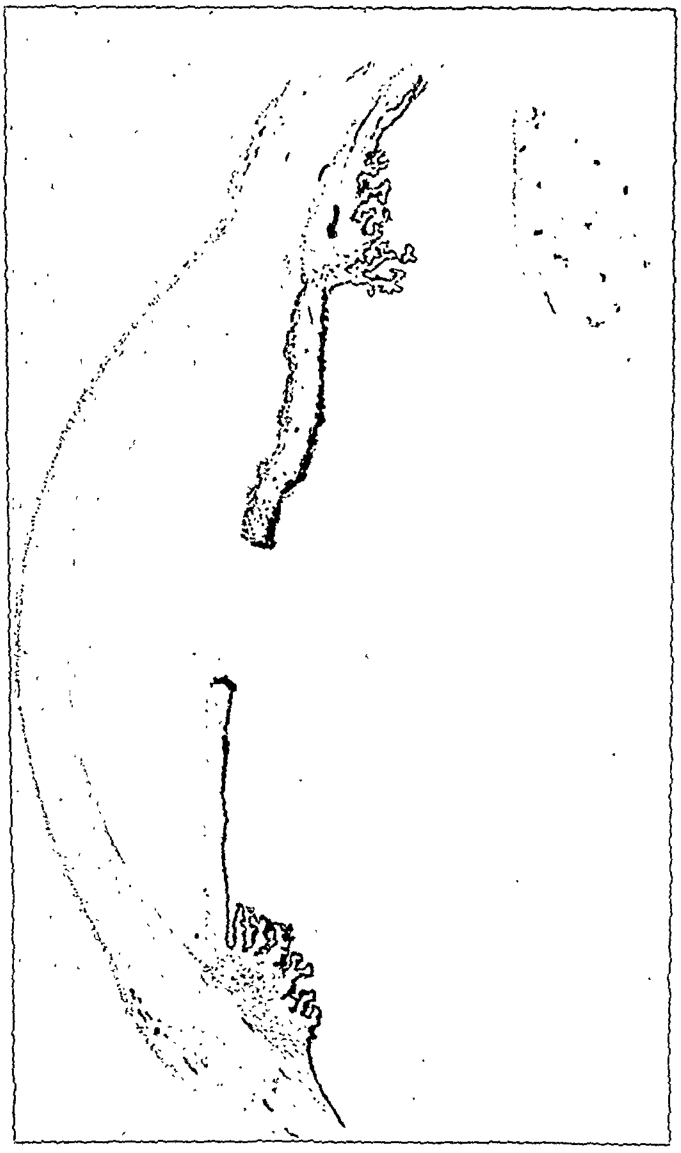

Figure 2.

In sections which correspond to the width of the pupil, as seen in Figure 2, the neoplasm is separated from its base or foot, but the ciliary body is thickened and interspersed with sarcomatous cells. Such cells are also visible in the wall and in the lumen of the canal of Schlemm.

The iris of the lateral half corresponding to the tumor is intensely pigmented. The yellow-brown pigment is situated in the superficial layer of the stroma, partially extracellular, partially in ramified chromatophore cells. The iris of the opposite side is free of pigment in the whole stroma and contains only the posterior pigment layer.

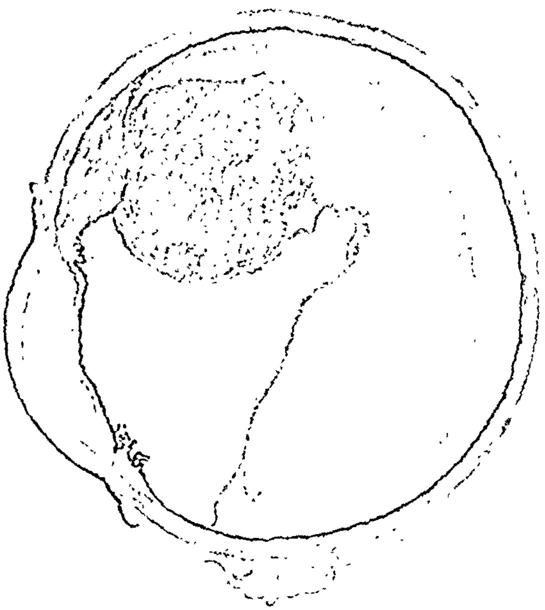

Figure 3.

In the sections which approach to the lower pupillary margin the tumor gradually becomes in touch with the ciliary body (Fig. 3).

In the lower part of the lower half of the globe the whole ciliary body is converted into neoplasm to the root of the iris. This tumor of the ciliary body is spindle-shaped and its upper border perforates the boundary coat and grows freely and fungiform into the subretinal space.

For the microscopic preparations and the able drawings, I am indebted to my first assistant, Dr. Fehr.

We must agree that the tumor started from this part of the ciliary body which corresponds to the congenital nevus of the iris.

These facts are very striking; they are not mentioned in the very large and new book of F. Lagrange on tumors of the eye, but they agree with some other facts of the pathology, for instance, that congenital pigment nevi of the cutis, as life advances, are converted into melanotic tumors, and with the theory of Cohnheim that congenital peculiarities of cell groups or persistencies of embryonal germs constitute the real predisposition to later development of malignant tumors.

A CASE OF MELANOSARCOMA OF THE CHOROID.*

LEWIS H. TAYLOR, M.D.,
WILKESBARRE, PA.

I wish to report briefly a case of melanosarcoma of the choroid occurring in my practice, because of some of the interesting features connected therewith and the later metastasis to the liver and the death of the patient:

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cent.; and 23 remained healthy, 56 per cent. This is the best record of success thus far published. Of 47 cases in which anatomic examination was recorded, 35 were melanotic, 9 slightly pigmented, and 2 leucosarcomatous. He reports, finally, a case of metastasis to the liver nine years after enucleation of the eye ball, but considers this very exceptional, and believes that patients who remain healthy after four years should be considered permanently cured.

DISCUSSION

ON PAPERS OF DRS. TAYLOR AND HIRSCHBERG.

Dr. Dudley S. Reynolds, Louisville, said that the chief point of interest, to his mind, is the time which may elapse after operation and recurrence of the disease. He recalled reporting a case of tumor of the iris to the International Medical Congress of 1876, at Philadelphia. In that case the neoplasm, being small, was removed by iridectomy. The patient had gone fourteen years after operation without any trouble whatever, until 1890, when he suffered from overwork, and then the eye became sensitive to light. In 1904 Dr. Reynolds saw this patient again, with the eye presenting an enormous mass, as large as the doubled fist, and the whole orbit and its contents, the lid, brow and part of the cheek, were all incorporated in the mass. He declined to do anything and the patient fell into the hands of a general surgeon, who scraped out the cavity of the orbit, and for five or six months the patient was going about, when suddenly he was seized with pneumonia and died. Postmortem showed that the liver, stomach and lungs had all fused together in one mass. This is an instance in which twenty-eight years elapsed before the fatal issue came. There are other similar cases in Dr. Reynolds' experience, and some in which but a few months elapsed. In the case of a child, ophthalmoscopic examination showed detachment of the retina, of circumscribed form, and the eye becoming painful, it was enucleated. Four months later the child came back with a malignant sarcoma, beginning above the brow and extending to the angle of the jaw. The case terminated fatally in a few weeks.

Dr. John E. Weeks, New York, for facilitating the diagnosis of these intraorbital tumors, commended the lamp devised by Sachs of Vienna. All ophthalmologists have experienced the difficulty of determining the presence of a growth in the interior of the eye. With this lamp of Sachs the eye which does not contain a neoplasm or large foreign body can be transilluminated. The lamp may also be used for direct illumination and a retina that is so opaque that one can not see through it with the ophthalmoscope will be rendered transparent by this means. Dr. Weeks has recently experienced this difficulty in seeing an intraorbital tumor which came out clearly on use of the lamp. He thinks that the origin of the malignant sarcomata from pigmented nevi of the iris has been recognized for some time. It is very probable that sarcoma of the choroid, like sarcoma of the iris, develops in many cases from similar congenital pigmented spots in the choroid.

Dr. Kaspar Pischel, San Francisco, showed specimens of [illegible] of the choroid. One patient he had under observa n for four years refused operation until acute glaucoma th intense pain compelled him to have something done.

Dr. L. H. Taylor said that he had no opportunity of examining his patient with the ophthalmoscope. He confirmed what Dr. Weeks said about the value of the Sachs lamp. He has one and uses it all the time.

Prof. J. Hirschberg said that he has had good results with the Roentgen light in showing a tumor of the choroid in a particularly non-transparent eyeball.

Thoroughness should be vindicated in the work to which we have been called and by which we have to be judged. If we play a game, let us strive to play it well, and not be a "footy"; if we undertake a piece of work, let us finish it to the last jot and tittle. If we profess a subject of knowledge, let us have it at our finger ends. . . . There is honor for the man who can be trusted to the end and whose work does not need to be done over again, who can always be found in his own place, and will always do what is expected of him. There is continual dishonor for the person who is slipshod and unreliable, and fickle and lazy, for he is like the reed which pierces the hand that leans on it.—Ian Maclaren in "Homely Virtues."

SOME OBSERVATIONS ON TREATMENT OF YELLOW FEVER.

L. SEXTON, M.D.

NEW ORLEANS.

While prophylaxis is the step most important to any community threatened with yellow fever, we must do something for the patient who already has the disease, and, to those inexperienced in the management of cases, this is really the most interesting viewpoint of the subject. All that we can do in some cases often comes to naught, as in patients who seem to be overwhelmed by the virulence of the poison from the very start, with marked congestion in the algid condition, which may soon be followed by anuria, feeble, rapid pulse and death. There is also another class of cases in which, either from the small amount of poison injected by the mosquito into the patient, or the splendid eliminating powers of the organs, the toxin seems to be thrown off with such rapidity that it is hardly necessary to aid Nature in the fight. These two opposite conditions in patients have produced a school of therapeutic nihilists in the treatment of yellow fever, which is very much to be regretted, because, for the patient occupying the middle ground between the two extremes just mentioned, there is a great deal to be done to conduct him to a comfortable and safe recovery.

In treating yellow-fever subjects, the constitution of the patient has a great deal to do with the plan pursued. For instance, the plethoric, strong-bodied young person with high fever may take with benefit one 5-grain dose of acetanilid or phenacetin and may use ice caps to back and front of head; whereas for a delicate or weak subject, or one in the algid stage, we who treat yellow fever in New Orleans would not allow even one dose of any of the coal tar derivatives or any ice application whatsoever. The majority of physicians advise against the use of any of the coal-tar derivatives in the treatment of yellow fever. We agree with this treatment for patients with weak hearts, but in the robust, plethoric cases mentioned above, with a temperature of 106 F. maintained for some time, it is more damaging to the patient than would be a single dose of acetanilid or phenacetin, which not only reduces the fever, but quiets the backache and headache, which is characteristic of this fever.

THE HOT BATH.

As a rule, we prefer the hot foot bath treatment, of one hour duration following the initial chill. During the bath the patient is to be snugly covered with light blankets to retain the steam arising from the hot water; and, to encourage the elimination by the skin, hot toweling, with hot drinks and alcohol rubs, should follow the bath to keep the pores of the skin open. If the majority of the physicians who have had experience were asked to state their preference, between the hot and the cold treatment of yellow fever, a great many would say that they prefer the hot method. The hot foot bath has become so universally recognized in tropical climates that we usually find this part of the treatment under way on our first visit to a yellow-fever case. Perspiration may be often augmented by hot lemonade, orange leaf or other tea, which, in addition to increasing perspiration, exerts a stimulating action on the kidneys, which is so much to be desired in treating yellow-fever subjects. In a hot climate, in the midst of summer with a temperature of 105 F., a hot mustard foot bath with warm blankets and still warmer drinks, is not a position to covet, but in its final results or benefit to the patient, it has been found to be more efficacious than the experience with Kibbie and his ice cot. In fact, the only three ways in which ice is to be used in the treatment of yellow fever are in crushed ice to allay vomiting and to quench the thirst; ice bags under and on the head in hot fever and on the stomach to allay vomiting where hemorrhage is suspected. When used on the stomach several folds of flannel intervening prevent the chilling and absorb the moisture from the ice bag.

TREATMENT OF BOWELS.

Elimination by the bowels is just as important as that by the skin, so it is in order to begin the treatment by an agreeable saline cathartic, such as citrate of magnesia, Seidlitz or any effervescing agreeable salts to suit the patient's taste, as we do not wish to disturb or unsettle the stomach at this time. Many physicians prefer an initial dose of calomel and soda, 2½ grains each, followed by some purgative mineral water; this calomel treatment is best suited to subjects who are naturally bilious. Quick flushing of the bowels is what is required, so an enema, or glycerin suppository is ordered if there is any tardy action of the bowels. This flushing must be kept up by enemas, or suppositories daily, as there is a great tendency to the formation of gas in the bowels in all yellow-fever patients. The proper initial purge to be used depends largely on the patient; equally good results seem to have been obtained from calomel in one or broken doses, and from the different saline purgatives rendered agreeable, as no nauseating drug or pills should ever be given to add fuel to the smoldering inflammation already in the stomach, hence citrate of magnesia, the effervescent salts of phosphate of sodium, the charged saline mineral waters to which the patient's taste is accustomed should follow up the initial dose of calomel in about four hours, until from two to four good movements of the bowels have been accomplished.

TREATMENT OF STOMACH.

The stomach is the next organ on which the ravages of the poison seem to exert special virulence. On postmortem, the mucous lining of the stomach is found to be softened and very congested, showing the impossibility of its functioning. It is harmful in severe cases to put either food to be digested or medicines to be absorbed into a stomach whose gastric and mucous follicles, peptic glands, nerve loops and capillary blood vessels are all undergoing changes incident to violent inflammation; hence the necessity of keeping the stomach absolutely empty from three to five days at the beginning of the fever. If an attack comes on after a hearty meal and there are indigestible substances in the stomach, they should be washed out or emptied by a mild emetic, such as hot salt water, or simple hot water until the stomach is distended; then the fauces should be titillated until the stomach is emptied; this aids in producing perspiration and starts the case out with a clean stomach, which is one of the principal organs attacked later on in the disease, and is, consequently, no little advantage.

The best plan to pursue in all cases is absolute starvation from three to five days, just as if the mouth were sewed up, with the exception of drinking water. The best treatment for nausea and vomiting (which is a very persistent symptom) is to use small particles of crushed ice with one-eighth of a grain of cocain occasionally, iced champagne for those accustomed to drink, mustard plasters and ice bag applied over the stomach, provided there is a tendency to hemorrhage. The cocain may be repeated as suppository two or three hours apart until nausea and vomiting are stopped. In some cases tablespoonful doses of milk of magnesia and cream of bismuth with peppermint water in equal parts, assist in allaying the acidity and removing the gases in the stomach. Pressure on the heart from these gases through the diaphragm produces the most disagreeable symptoms, which are sometimes met in treating yellow fever. Bicarbonate of soda is occasionally added to the above prescription when this acidity is continuous. All the resources of the expert are needed to allay an irritable stomach.

TREATMENT OF SUPPRESSION OF URINE.

The way to prevent anuria, from which most subjects die, is to keep the kidneys functioning by water diuresis. What goes in must come out, so water given regularly every hour or two, while the patient is awake and has high fever, is not only very grateful to the patient, but keeps the kidney acting. The water may be charged, alkaline or plain, iced or hot, just to suit the patient, but it must be given with the regularity of medicine to have the desired results. Watermelon seed or orange leaf tea are common remedies among the Creole population of New Orleans. Lithia tablets may be added to the water or mineral springs water of proven diuretic value may be used, but, after all, it is more in the quantity than in the chemistry of the water. This water should be repeated often, but not in large quantities, if nausea be present. High hot water enemas, or a literal warm bath for the kidneys through the rectum, or hot turpentine applications to the spine or abdomen are all recommended by experienced practitioners.

Others have suggested one-grain doses of calomel one hour apart until the kidneys and bowels act, while some have recommended half-pint doses of champagne. Any one who has examined a yellow-fever kidney postmortem with its epithelial and inflammatory degeneration, its blocked, uriniferous tubules filled with débris and toxin products, will know the necessity of washing them out with the vis-a-tergo or abundant water treatment. The condition is a desperate one, hence the multiplicity of remedies and suggestions, all of which frequently have failed.

TREATMENT OF THE HEART.

Yellow fever is a germ or toxin poisoning circulating in the blood, which profoundly depresses the heart's action. The pulse may drop to 50 or 60 beats per minute. After the first two or three days remember the recumbent position is imperative during the existence of this depression. The patient should not exert himself, even to turning in bed. Water and liquid nourishment should be taken out of ideal glass, sick cup, or through a bent tube, so that not even the head is raised in the effort of drinking. The patient should be given 1/60 grain of strychnin hypodermically with caffein to stimulate the heart during this weakened period, when necessary.

As said before, the poison of yellow fever is a powerful toxin circulating in the blood whose main ravages are exerted on the liver, resulting in jaundice, on the stomach, producing pain, nausea and hemorrhage in severe cases; on the kidneys, causing nephritis, hence the albuminuria, uremia; and on the heart, slowing and weakening its action, so that the ratio between the pulse rate and temperature is lost, giving 106 F. temperature with a 70 or 80 pulse beat per minute. Any toxin that is capable of working any or all of these ravages is a powerful factor with which to deal, and any one who views it lightly is either reckless or not experienced in its management.

COMPLICATIONS WITH MALARIA AND DENGUE.

Yellow fever is certainly intimately connected with malaria in many cases, in that it occurs in the patient at the same time and in tropical climates; has the same intermediate host (the mosquito); begins with a chill, head and lumbar pains, so that the first twenty-four hours of the two diseases run in parallel lines in many cases. On this account, whenever the malarial plasmodium is found in the blood examination, 20 grains of quinin has been given with advantage by enema during the first twenty-four hours of the fever. It is not considered safe to give it by the stomach in capsule form, but its action in eliminating the malarial element is just as positive as in uncomplicated malaria. It has been observed by clinicians that nearly every outbreak of yellow fever has been preceded or intermixed with dengue fever. Whether the so-called dengue is another name for mild yellow fever, I will not attempt to discuss here, but will state that the last three epidemics of yellow fever in New Oreans and contiguous territory have been so mild in some patients that many families, thinking it dengue, risked treating themselves, rather than to call in a physician and to undergo the temporary inconvenience of screening and fumigation incident to yellow-fever cases. Many of these mild untreated yellow-fever patients spread the disease and reproduced the severer forms of fever in localities where its origin could not be otherwise traced.

DIET.

During convalescence the liquid nourishment, such as alimentary elixir, milk and lime water, strained soups, barley water, egg albumin, may be administered prudently, but only in tablespoonful doses at the time, and an hour or two apart, until convalescence is well established. All of these articles of diet are to be stopped if disagreeable symptoms supervene.

With Dr. Sternberger's bichlorid of mercury treatment, we have had no personal experience.

This article is intended to deal only with some of the more prominent symptoms and treatment of yellow fever. There are many little details of nursing and nourishing in the convalescent stage that the tact of the nurse and the physician will discover in the progress of the case. What is here recommended is a sort of résumé (consensus) of general methods and treatment usually in vogue by the active practitioners during the last three outbreaks in New Orleans.

POSTOPERATIVE PELVIC EXUDATES.*

W. FRANCIS B. WAKEFIELD, M.D.
SAN FRANCISCO.

Anyone who takes the trouble to investigate this subject carefully will be surprised at the frequency of a postoperative exudate as a sequel to surgical procedures for the relief of the various pathologic conditions which may be found within the female pelvis, due to past or present inflammation.

Let these conditions be what they may—pyosalpinx, hydrosalpinx, or hematosalpinx, ovarian cystomata, hematomata or abscesses, neoplasms of the uterus or periuterine structures associated with degenerative or inflammatory changes—if they produce an exudation which results in the formation of abnormal adhesions, if they bring about hyperplastic changes in the pelvic connective tissue structures, or if they are responsible for an embarrassed pelvic circulation with passive hyperemia, edema or venous varicosity, they may easily lay the foundation for future postoperative exudates.

Although theoretically recognizing the possibility of postoperative pelvic exudates, the question had not assumed practical importance to me until three years ago, when a patient, a few months after having been operated on for bilateral pyosalpinx, returned to me complaining of pelvic discomfort and on examination I was surprised to find a firm, slightly fluctuating mass, the size of an orange, on the left side. Under appropriate general and local treatment the mass entirely disappeared in a few weeks and has not returned since. During the time it was present in the pelvis it produced symptoms almost as severe as the original condition.

Since that time I have made a systematic study of the postoperative local conditions of the patients on whom I have operated for the results of pelvic inflammatory disease. The outcome of this methodical research leads me to the conclusion that postoperative exudates or indurations may be found, to greater or less extent, in about 60 per cent. of the patients on whom we operate for the purpose of relieving the various pathologic conditions produced by severe inflammatory disturbance.

While our patient lies in bed after the operation, and, in fact, up to the time she leaves the hospital, these postoperative tumefactions are rarely observed. It is after the patient begins to lead a more active existence and gradually takes up her general duties, with the increased physical exercise which such duties demand, that these exudates begin to give evidence of their existence. The patient will feel a sense of weight and ill-defined discomfort amounting sometimes almost to pain, on one side or the other, or on both, reflected up around the brim of the pelvis on the affected side, and on examination a more or less pronounced thickening or tumefaction will be found. In general character these tumefactions vary greatly. Sometimes one observes simply an edematous thickening of the broad ligament structures; at other times hard indurations of variable size, from that of an egg to that of a large lemon; again, semi-fluctuating tumors which often are as large as a cocoanut, almost filling the pelvis and pushing the uterus toward the opposite pelvic wall.

In this paper I exclude from the discussion those septic exudates of streptococcic or other pyogenic origin which may occur shortly after an operation and which are accompanied by elevation of temperature, increase in the pulse rhythm, and the other symptoms of a septic state.

In view of the frequency and importance of these non-septic exudates, one would naturally expect a rich literature on the subject. In this expectation, however, one meets with disappointment. Our literature is almost silent on the question. I have been able to find only two or three allusions to the subject in our American literature of recent years.

In the discussion of a paper read before the Chicago Gynecological Society, March 17, 1899, by G. A. Kletzsch on "Remote Postoperative Pelvic Conditions and Their Symptoms, with Report of Cases," Thomas J. Watkins calls attention to postoperative exudates, and attributes the symptoms of one or two of Kletzsch's reported cases to this cause, in which opinion I concur.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The possibility of postoperative exudates is also vaguely suggested by J. Riddle Goffe in a paper read before the American Gynecological Society last year under the title of "The Value of Postoperative Local Treatment in Gynecology," and a direct allusion is made to this subject by George Tucker Harrison in an article entitled, "Conservative Treatment of Affections of the Uterine Adnexa, Its Indications and Limitations," which was read before the Virginia State Medical Society at its thirty-fifth annual meeting. In this article Harrison speaks of "intrapelvic pains due to exudation about the stump."

One wonders whether these exudates have not been generally observed, or whether, having been observed, they were regarded as being relatively unimportant. I regard them as being of extreme importance, and can positively assert, from personal experience, that failure on the part of the gynecologist to recognize early and to treat appropriately these mechanical exudates until they have disappeared, will often result in a state of invalidism quite as pronounced as that which existed prior to operation. This being so, a responsibility rests on us, and I think Goffe's plea for postoperative local treatment in gynecology is well timed.

The pathology of these exudations and indurations seems to me to be simple. I have never subjected any of these patients to any secondary operative procedures, so have, therefore, had no opportunity to make a histologic study of the [illegible] ese pelvic tumefactions. A thoughtful review, however, of the conditions existent in the pelvis after an operation enables one to arrive at a very clear conception of the method of formation of these mechanical entities. Let us suppose we have operated on a patient whose pelvis is the seat of a bilateral pyosalpinx with adhesions. We have performed a bilateral salpingo-oöphorectomy, after having broken up the surrounding adhesions. We have covered up the raw surfaces with peritoneum as best we could, and closed up the abdominal wound. In the pelvis thus operated on there will exist the following local conditions:

1. A break in the arterio-venous circle, caused by the ligation of the ovarian artery and vein, which demands the establishment of a collateral circulation.
2. A deposit of embryologic connective tissue in and around the sites of surgical trauma.
3. An edematous, hyperplastic condition of the pelvic connective tissue as a result of long-continued association with chronically inflamed viscera.
4. Adhesions may tie the pelvic viscera together or to contiguous abdominal viscera.

A careful review of these statements gives us ground for a logical hypothesis concerning the pathology of the postoperative mechanical tumefactions under consideration—the so-called exudates. The first two factors supply the cause; the last two simply intensify the first. It is easy to appreciate how hyperplasia of the pelvic connective tissue, by irritating pressure, and adhesions, by more or less profound immobilization, should both act directly in intensifying an already disturbed venous circulation. Given, then, an inefficient circulation, with the venous stasis, edema, etc., that follows, and the presence of a greater or less quantity of embryonic connective tissue, and we have all the requisites for the production of future pelvic indurations. At about the time that, under ordinary conditions of wound healing, the embryonic tissue would be undergoing absorption, the patient on whom we have operated, who has been in the prone position for about three weeks, the position most favorable to venous outflow, suddenly assumes the upright position and increases her muscular activity, which excites arterial inflow and impedes venous outflow. The venous stasis thus produced is very unfavorable to the absorption of the embryonic connective tissue found in and about the pelvic wound surfaces. So much so is this the case that often not only is the absorption of the embryonic tissue hindered by this local irritation, but an actual increase of new tissue is produced. It is my opinion that it is the accumulation of an excessive amount of embryonic connective tissue substance that forms our postoperative pelvic tumefactions and constitutes our so-called pelvic exudates. If this embryonic tissue is rich in fibers our tumefactions appear as firm indurations; if, on the other hand, there is a scarcity of fibrous elements and an abundance of soft, young cells, we then get our less resistant, semi-fluctuating masses. As the pelvic circulation improves and gradual absorption of this embryonic tissue takes place, our tumor disappears. If, on the other hand, no improvement in the circulatory condition is brought about, and no effort is made to encourage the absorption of this new tissue, it becomes a more or less permanent structure in the pelvis, and, in time, will gradually change from the embryonic type to the adult connective tissue type, until, eventually, as has been demonstrated to me more than once, a hard, fibrous mass, formed, at least in part, of adult fibrous tissue, will occupy the site of the original pelvic induration, and may, perchance, give rise to a complex symptomatology quite as distressing, if not as serious, as the original condition for which we operated.

Careful observation leads me to believe that these products of a disturbed circulation can often be prevented by a prolonged convalescence, the assumption of activity very gradually, aided, when possible, with general hygienic and local depleting measures. The general prophylactic measures to be adopted are, of course, those which tend to improve the general circulation, such as light massage, alcohol and salt friction rubs, tepid sponge baths, etc. Local depletion, at this stage, consists in copious hot douches once or twice daily.

Such postoperative care as just outlined is, of course, impracticable in our hospital service, and can only be applied to a small percentage of our private patients, but it is a wise practice when it is carried out, and when it can not be carried out we must follow our patients up and give each one whatever postoperative treatment, both local and general, the exigencies of her case demand and her circumstances and environment render possible.

When, some time after operation, examination reveals the presence of a pelvic induration or tumefaction, we must at once institute appropriate treatment and continue this treatment until the so-called exudate undergoes absorption. Physical exercise must be kept within very reasonable bounds, and all the excretory organs kept active, especially the skin. Local treatment will consist in stimulating and depleting measures. The two most useful are the copious hot douche and the depleting tampon. The douche may be used once, twice, or three times daily, depending on the urgency of the case, and should always be taken in the recumbent position, preferably with the hips elevated. The amount of water to be used in the douche should not be less than two gallons, and the temperature should be as high as the patient will permit—from 110 F. to 120

F. The tampon must consist of some light, fluffy and non-absorbable material—something that will not ball up into a hard, irritating mass. Fine Australian lamb's wool makes the ideal material for tampons. The depleting medicament to be used on the tampon will differ with individual preference. The menstruum must be one which encourages free exosmosis, to which may be added astringents, antiphlogistics, or antiseptics. The local application of electricity might, in some cases, be beneficial. Local pelvic massage, as suggested by Brandt, is very serviceable in the hands of some men and very harmful in the hands of others. The difference is purely a matter of individual proficiency in its use.

Incision and drainage of these pelvic masses through the vault of the vagina naturally suggests itself. I have never found it necessary so far, although, in one case, I was tempted to do it. I was glad afterward that I refrained from surgical interference, as continuance of depleting local treatments soon brought about complete resolution of the exceptionally large, semi-fluctuating tumor present in this particular case.

In conclusion, I simply wish to say that I am thoroughly convinced that, as we study more intelligently and carefully the local postoperative conditions existing in patients whose pelves have been the seat of acute or chronic inflammatory disease, the more necessity we will find for intelligent postoperative treatment, and the more gratifying will be our remote operative results to both the patient and ourselves.

DISCUSSION.

Dr. H. O. Pantzer, Indianapolis, challenged the paper for being at variance with the ordinary principles of pathology. The term used—pelvic exudates—implies an infection giving rise to pyosalpinx. This disease, he said, is practically always accompanied by temperature. These cases can be ascribed more properly to postoperative hemorrhage. All the phenomena present can be explained on such hypothesis. Dr. Pantzer believes that had Dr. Wakefield done a posterior colpotomy he would have found, in addition to pus, the evidences of blood. These cases may become suppurative and develop temperature at any time after operation, even without infection. They are to be grouped under the head of incomplete hemostasis or postoperative hemorrhage.

Dr. C. O. Thienhaus, Milwaukee, Wis., said that there are two reasons why we do no longer hear so much of postoperative exudates. The first reason is that surgeons have given up the use of silk ligatures within the abdomen. Five years ago Dr. Thienhaus called attention to the fact that when silk is used within the abdomen and the operative field is infected during the operation or becomes infected after operation, the silk ligatures also become infected and often form a nucleus for later exudates, from which fecal and other fistulas and other conditions may originate, the correction of which proves a troublesome and dangerous task even to the expert surgeon. The other reason is that surgeons now do more complete operations. If, during an operation for pus tubes, a part of the tube is not excised and thereby a small area of infection is left, postoperative exudates may form.

Dr. D. H. Craig, Boston, reported a case which interested him greatly. About eighteen months before coming under his observation, at the Free Hospital, a woman had both tubes and ovaries removed. She did not make a satisfactory recovery. Dr. Craig found a mass about the size of a lemon in the region of the broad ligament; it was easily palpable through the vagina. The patient also had an adherent retroversion and badly irritated, lacerated cervix. The cervix was repaired, and the mass was still palpable in the broad ligament. The abdomen was then opened and the adherent uterus loosened and suspended. The most diligent search failed to reveal any tumor in the broad ligament. The patient was discharged from the hospital at the end of four weeks. Two weeks afterward she reported at Dr. Craig's clinic with the mass as plainly palpable as ever. He called in several other men, and they all felt the tumor. She returned a week later, and not one of five men could find the mass. At the end of another week she reported again with the mass as manifest as at her first visit. The question is, what was the mass? Dr. Craig believes that it was a broad ligament varix, and that the lithotomy position maintained during the first operation, superseded by the Trendelenburg posture had drained the varix so that it disappeared. If this was a postoperative exudate, Dr. Craig would like to know what to do.

Dr. J. Riddle Goffe, New York, stated that his attention has been directed to this line of treatment in his work for the relief of sterility. In these cases a very slight cobweb adhesion may be the cause of the most persistent sterility. In operating in cases in which he did not find it necessary to remove any tissue, and contented himself with breaking up adhesions and setting the organs free to perform their functions, it occurred to him that it might be wise to promptly begin postoperative treatment, and by doing so he has been able to attain some excellent results. He referred to the depleting effect of tampon treatment and hot-water douches, and advised against waiting until the exudate can be felt before beginning that treatment. If the douches and tampon are used too early, however, the normal healing process is prevented; therefore, he waits until the twelfth day, or even the fifteenth, before instituting this treatment. The etiology of these postoperative adhesions is more or less obscure. In most cases there is infection, although not of a virulent character, and Nature as a matter of protection throws out a certain amount of plastic exudate. This, as a rule, does not develop into an abscess. Postoperative treatment will assist materially, not only in preventing the exudation from forming, but also in hastening its absorption after it has occurred. It is important to follow up patients and to examine them carefully after operative procedures in the pelvis. In the last few years it has become a growing ambition to get patients up too early. Recently, before the New York Obstetric Society, a physician said that he allowed his laparotomy patients to get up as soon as they wanted to, some being on their feet the day following the operation. This is going to an unfortunate extreme. In order to get the best results, it is necessary to keep patients quiet longer, and when there has been extensive inflammatory exudate preceding operation, one may expect more or less recurrence of it after operation. Hence it is well to give postoperative treatment before discharging the patient.

Dr. C. S. Bacon, Chicago, thinks that there are several causes for this condition. It is sometimes due to hemorrhage; sometimes to sepsis; sometimes, possibly, to varix, and it may be the result of a non-virulent infection. Even a gonorrheal infection, at a late stage, does not necessarily produce much temperature, and thus it might be overlooked entirely. Infection from the intestinal tract might account for some of these cases. Dr. Bacon feels quite certain that some of these exudates are of infectious origin. The same condition of affairs is seen in a mild breast infection, with a beginning abscess, but it almost always disappears if treated properly by absolute rest, with support of the breast and the application of cold or heat. This is the reason for the good effects of the treatment in the cases reported, and it also emphasizes the point made by Dr. Goffe that there is great danger in getting patients up too early after operations, and in not getting them up in the proper way. The postoperative treatment should be like the management of the puerperium. It is not necessary to have the patient in bed for a week or two and then have her get up for a whole day. When she begins to get up, let her do so carefully and gradually. When the postoperative management of a case is carried out like the management of the puerperium, fewer of these conditions will occur.

Dr. J. H. Carstens, Detroit, thinks the percentage of these cases depends on the surgeon. If he is a broad, all-around man, he will have only about 4 or 5 per cent. The trouble is that surgeons are all specialists; they are not broad enough to see everything. Some surgeons have too poor a technic.

They make mistakes, too. Dr. Carstens has seen men tie off a tube containing pus, and the patient has a postoperative exudate. The way to do is to cut the tube in a V-shaped way and then bring the ends of the V together and cover it all over with peritoneum. Then, as a rule, there will not be any adhesions. To dig through the intestines and try to break up adhesions is bad. If it is in a pus case, Dr. Carstens advised taking a little rubber tube with a cross piece, putting it in the cul-de-sac and draining through the vagina. In the place of peritoneum one can use Cargile membrane. Dr. Carstens has most trouble in cases in which he does conservative operations; those in which he leaves half a tube or an ovary, or in which he does an abdominal or vaginal hysterectomy and leaves one ovary. Another thing at fault is the after-treatment of these patients. They do not get enough to drink. One can not get absorption and elimination from solid tissues. These patients need liquids, and must be flushed out. The eliminating organs must be opened up. Every patient should receive two or three quarts of saline solution by rectum or under the breast immediately after the operation. They must have plenty of water, at least three quarts a day, one-half pint or a pint at a time, if the stomach is all right. Then, if there is a little exudate, Dr. Carstens uses a mercurial. He commences with protoiodid of mercury, one-eighth of a grain every three hours, until he has given about thirty doses. That acts as an alterative and absorbent and opens up the lymph channels, and the patients get along better. They have comparatively few complications.

Dr. **Frank T. Andrews**, Chicago, agreed with Dr. Carstens that infection often comes from the cut extremity of the tube, but his method of prevention has been more radical than Dr. Carstens'. He removes the whole tube, even into the horn of the uterus, and then closes the wound with a web stitch, often not ligating the uterine and ovarian arteries, simply running a stitch along the top of the broad ligaments. That, however, depends entirely on the individual case.

Dr. **H. C. Crowell**, Kansas City, said that the worst sequelæ and the most important are those that follow these operations. If it were not for the kindness of Nature in absorbing adhesions, surgeons could not enter the abdominal cavity. However careful the procedure, the endometrium is more or less disturbed and sequelæ result. Dr. Crowell believes that the age of the silk suture has passed, but stated that catgut is a source of trouble if not carefully prepared. The knot in the suture gives rise to an exudate which may end in an abscess. He believes that a shorter-lived catgut may be used safely, because the ligation of vessels requires a very short time for perfect occlusion. The technic is the most important point. Dr. Crowell thinks that patients ought to get up early, as fluids gravitate toward the pelvis if the patient is in the erect position. He advised getting the patient up on the second or third day and encouraging circulation by putting her on her feet and allowing her to walk. Exudates are then absorbed. He has allowed hysterectomy patients to get up on the second day and always inside of a week. He is satisfied that these patients do better than they would if kept in the recumbent position for a long time.

Dr. **W. F. Wakefield** said that the class of cases Dr. Pantzer spoke about are ruled out of the discussion. The paper expressly excludes them. These are mechanical conditions that are practically never found while the patient is in bed, and Dr. Wakefield has examined these patients carefully for the last two or three years. It is after the patients get up that these conditions are found, and even then they depend on how slow convalescence has been. If very slow, exudates are rarely found at all; if rapid, in from two to eight weeks after the patient begins to walk, one finds these tumefactions. Dr. Craig's case illustrates exactly the class of cases referred to. Dr. Wakefield said that he could have mentioned from fifteen to twenty similar cases. Gynecologists have not been looking for these indurations and, therefore, they have not found them as often as they have been present. These tumors are pure mechanical entities. Just what the mechanism is he is not prepared to say. Sepsis has nothing to do with it. He has never found sepsis in any case. An embarrassed circulation is probably the largest factor, and this circulatory irritation acting on the new tissue accounts for the condition in all likelihood. He has never cut into one of these tumors, and he believes that if he had he would not have found anything. Nevertheless, unless the absorption of this mechanical mass is brought about, the patients will suffer from ill-defined pelvic irritation, almost as troublesome as the original condition for which they were operated on. Dr. Wakefield explained that he used the term exudate because it is the term used in the literature. It refers to any tumefaction about the field of operation. He thinks it is a misnomer. Throughout his paper he speaks chiefly of the *so-called* exudates and calls them mechanical tumefactions. He does not believe that they are real exudates. The percentage of their occurrence depends not so much on the technic of the operator as on other things. He removes tubes just as Dr. Carstens does. When he mentioned 60 per cent. he did not mean that there was a definite tumor in that percentage of cases, but that on examining these women in from six to eight weeks after operation he has found in 60 per cent. either a thickening of the broad ligament or a distinct tumefaction. He does not believe in letting patients get up early. In carrying on a series of experiments on patients he found that these tumefactions are almost invariably produced in patients who get up early. The longer the patient can be kept in bed and the more protracted the convalescence the less likelihood there is for the formation of these tumefactions.

HERNIA OF THE TUBE WITHOUT THE OVARY.*

FRANK T. ANDREWS, M.D.
CHICAGO.

I wish to report four cases of hernia of the tube without the ovary, one furnished by Dr. James H. Haberlin, Pawtucket, R. I., and another by Dr. H. H. Judd, Chicago, the third and fourth being from my own practice.

I have made an exhaustive search for recorded cases of hernia of the female pelvic organs and find 362 cases sufficiently well reported to be of value. These cases, with my own, may be tabulated thus:

	Cases.
Hernia of tube without ovary	46
Hernia of ovary and tube	80
Hernia of ovary without tube (or tube not mentioned)	167
Hernia of non-gravid uterus	43
Hernia of pregnant uterus	30
Total	366

Early in the second century, Soranus of Ephesus described the first case of hernia of the ovary. No further observation was made until 1716, when Louis Leger de Gouey of Rouen wrote an article citing a case of intrahernial tubal pregnancy.

The literature of tubal hernia is practically the same as that of ovarian hernia, but in 1893 Lejars[1] published an article on hernia of the Fallopian tube without the ovary; and in 1901 Dr. Paul F. Morf[2] published a very complete work on the same subject, reporting 24 cases, including his own.

REPORTS OF FOUR CASES.

I wish to record here the following cases:

Case 1 (Reported to me by Dr. H. H. Judd).—Patient, a Swedish widow, 56 years of age, and admitted to Cook County Hospital May 12, 1905. First noticed small tumor in left groin fourteen years ago after doing some heavy lifting while eight months pregnant. Tumor was easily reduced, and gave no trouble until one and one-half years ago, when it again appeared and reduction was impossible. Physician was called who obtained reduction. This attack was accompanied by considerable pain at site of tumor, restlessness, irritability and vomiting. Had similar attacks one year ago, also three months ago. Present attack is accompanied by more pain than before, and patient had vomited several times on day of admittance.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Revue de Chirurgie, January and February, 1893.

[2] Annals of Surgery, 1901.

Examination showed small irreducible tumor in left inguinal region, firm in consistency, except at distal extremity, where it was tympanitic. Tumor gave slight impulse on hard coughing and was somewhat tender.

Operation performed by Dr. Kahlke. Incision over tumor, sac opened, and dissected loose. Sac contained portion of ileum, which was very dark colored, a portion of broad ligament and a loop of Fallopian tube while ovary was situated within abdominal cavity, but firmly pressed against femoral ring and neck of sac. Tube and ovary replaced, sac excised and wound closed with catgut. Chart of temperature, etc., was as follows:

	Pulse.	Temp.	Resp.
On admittance	100	98	30
After operation	108	101	30
Third day	84	98.8	24

Patient made uneventful recovery and was discharged June 13, 1905.

Case 2 (Reported to me by Dr. J. H. Haberlin).—Mrs. B. N., 45, white, United States.

Family History.—Father died at 58 years of pulmonary tuberculosis after four years' illness. Brother, third born, died at 23 of pulmonary tuberculosis, two years' illness. Brother, second born, died at 35 years of Landry's paralysis. Brother, fifth born, died at 39 years of chronic nephritis and hepatitis (alcoholic etiology). Mother living and well at 76 years, excepting slight edema of legs and periodic subacute rheumatic attacks. Yields readily to treatment. Brother, 50 years, in good health. No one beside the patient ever had a hernia.

Previous History.—Patient was a full term child, born in normal labor. Never sick in infancy. Breast fed until late in infancy. Had measles and pneumonia in early childhood. Otherwise well. Jumped from a high wall at 7 years of age and received hernia in the left groin. Twelve years ago, while lifting heavy weight, received hernia in right groin. Was treated by Dr. O. Edwards, Boston. He injected a solution that caused intense inflammation, with consequent great suffering. After a week, the symptoms of inflammation subsided and patient was discharged cured. The left hernia never recurred, but the patient thought she felt the right hernia recurring and dropping lower down. The doctor, when again consulted, however, insisted that the hernia was cured and refused further procedures. Every since this time, patient has had a hernia in the right groin.

Personal History.—Patient uses alcohol moderately. Has worked in a department store as clerk since husband's death (fifteen years ago) until about two years ago. Appetite good. Bowels slightly constipated Sleeps well. Disposition cheerful. Menses appeared at 16 years; were then regular, flowed six to seven days without pain until 19 years of age. Then patient suffered pain during the flow. Married at 20 years. Had child at 21 years and at 25 years. Labor normal. Never miscarried. Has had leucorrhea ever since marriage almost constantly, but amount and character has varied. Sometimes discharge was thick, white and tenacious, sometimes it was thin and white or yellow. Widow for fifteen years.

Present Illness.—I was called to see the patient May 14, 1905, at 8:30 p. m. Found her seated in a rocking chair, tearful and evidently suffering great pain. (Patient usually a stoic.) Hernia has been down four days and patient is unable to reduce it. Usually she can reduce it at its worst stage by lying on the floor and putting feet on the bed and then gently maniplating the tumor. Patient has not menstruated for six weeks. Never before has this latter occurred except in pregnancy.

Examination.—Firm rounded tumor as large as grape fruit. Patient placed in dorsal decubitus with feet raised, and I manipulated the hernia to obtain reduction. Manipulation caused great pain if done at all but gently. Tumor gradually reduced to size of small lemon, when further reduction was absolutely impossible.

Diagnosis.—Ruled out tuberculous femoral glands, hernia of tube and ovary and enterocele in favor of incarcerated epiplocele (inguinal).

Operation.—This was advised as only resort. Patient consented. Patient was removed to St. Joseph's Hospital, Providence, R. I. Dr. William L. Harris of the surgical staff agreed that it was epiplocele, but thought it femoral and strangulated. In discussion, he did not insist on the latter condition, however. Operation was by Dr. Harris. Incision parallel to Poupart's ligament. Sac exposed and seen to contain a light yellow-colored serum. Tumor as large as small lemon, as before mentioned. Tumor punctured and serum allowed to escape. Sac (peritoneal) incised and the cyst wall seen to be connected to one of the fimbriæ of the tube, all of which were in the wound. Fimbriated end of the tube amputated. Hernia was femoral.

Postoperative History.—Ideal patient; ideal result. Left the hospital fifteen days after operation. Was obliged to use napkins every day in the hospital for slight saneous discharge. Pain in wound week after operation disappeared in three days. Menses appeared two weeks after return home; lasted scarcely five days, with decidedly less pain and discomfort than usual.

Case 3 (author's).—March 24, 1904, I operated for Dr. Childs of Roseland, Ill., on Mrs. K. (multipara, aged 32, married eleven years), for diseased appendages. There was a history of gonorrheal infection three years previous, followed by salpingitis. A right inguinal hernia, caused by carrying pails of water, had existed for sixteen years. Operation disclosed the usual condition of adhesion on both sides, except that the right tube led in a straight line to the hernia. About one-half the tube was adherent, together with omentum in the hernial sac. The internal inguinal ring was patulous, a loop of bowel evidently slipping in and out of the sac readily. I removed the appendages and repaired the hernia. The patient made a normal recovery.

Case 4 (author's).—Mrs. W., aged 23; admitted to Mercy Hospital April 30, 1905. Married one and one-half years. Had a child born March 2, 1905.

Previous History.—No tuberculosis in family. Had as diseases of childhood measles, whooping cough and scarlet fever. Suffered occasionally from pain in abdomen and diarrhea. Periods began at age 13, and were regular every four weeks. Flow profuse and not very painful. Never had any weakness or pain in the right groin nor knew of any tumor or hernia. After birth of a child, March 2, 1905, she evidently suffered from infection, giving a history of irregular chills, alternating with high fever. At first there was considerable vomiting. Since then there has been great pain and tenderness in the right inguinal region, with the gradual development of great swelling.

Examination.—Temperature 101 to 103; pulse 100 to 140. The abdominal wall on the right side was swollen and edematous, the swelling extending upward to the ribs and downward on to the anterior surface of the thigh. Digital examination revealed a mass involving the right appendages, but nearly filling the pelvis. The outlines of ovary, tube or uterus could not be distinguished.

Diagnosis.—Pelvic abscess due to rupture of right pyosalpinx with adhesions to anterior abdominal wall.

Operation.—I was assisted in the operation by Drs. Barnes and Norris. Ether was given by Dr. Mitchell. Usual preparation. Trendelenburg position. Incision 4 inches long in median line. Pelvic organs on right side were matted together and covered by adherent omentum and intestine. After separating the omentum and bowel from the mass, the uterus could be seen drawn to the right. Laparotomy sponges were inserted to wall of the field of operation. On separating some uterine adhesions with the finger and drawing the uterus to the left, it was discovered that the right tube and round ligament had been severed at the uterine horn. On introducing a retractor to lift the abdominal wall, pus could be seen escaping from the internal inguinal ring into the peritoneal cavity. The parts were cleansed of pus, and the finger inserted through the ring into the cavity of the abscess. An incision was made through the skin into the hernial abscess and a gauze drain inserted. A gauze drain was also used in the median incision and the remainder of the wound closed by silk-worm gut, interrupted sutures. The patient made an uninterrupted recovery and left the hospital May 30.

The following cases I have gleaned from the world's literature:

Aubry :[3]Age 70, postmortem examination revealed hernia of the Fallopian tube. Tube had passed through femoral ring and lay in front of the pectineus muscle, between the adductors and the femoral vessels.

Berard :[4] Age 45, acquired crural hernia of the right tube; irreducible. Exploratory puncture evacuated clear fluid; patient showed symptoms of a phlegmon and death occurred seven days after evacuation. At autopsy, a seropurulent peritonitis was found. The neck of the sac passed through the crural ring, and within it the Fallopian tube, somewhat enlarged. No other viscera were found in hernial sac.

Boudin :[5] Age 50, acquired crural hernia: irreducible. Operation, sac was found to contain the Fallopian tube alone, strangulated by neck of sac. Recovery.

Brunner: Case 1.—Age 68, irreducible; acquired crural hernia. Operation; the sac being opened, clear fluid escaped, disclosing swollen and edematous extremity of right Fallopian tube; the tube was reduced; a lipoma situated in upper portion of sac was isolated and extirpated. Recovery.

Case 2[6].—Age 38, acquired inguinal hernia; irreducible. Operation; clear fluid tinged with red escaped from sac after incision. *Right Fallopian tube* was contained in sac. By making traction on tube, the ovary was dragged forward, but was found to be perfectly healthy. Tube was reduced and the sac ligated and resected. Recovery.

Chiene :[7] While dissecting the body of a woman, aged 73, found an obturator hernia; the sac contained two-thirds of the Fallopian tube and two inches of the ileum. The bowel was gangrenous and had given away. On the opposite side were two obturator herniæ, an anterior sac formed of parietal peritoneum and the posterior sac containing the outer half of the Fallopian tube. A year previous she had been successfully operated on for strangulated femoral hernia.

Demoulin :[8] Operated in a case of hernia of the tube, where there was adherence to the sac; traction brought the ovary to view.

Deaver, J. B. :[9] Strangulation of the fimbriated extremity of a Fallopian tube of the right side, which was thought to be a femoral hernia.

Dolbeau :[10] Tumor in inguinal region presenting signs of an abscess of inguinal canal. *Incision* pus escaped. Peritonitis and death. Autopsy showed pus collection surrounded by hernia sac, which contained likewise a serous cyst. *Incision* of cyst revealed Fallopian tube.

Dupont :[11] Age 38, in fifth month of pregnancy, acquired inguinal hernia. Exploratory puncture caused escape of yellowish fluid. Operation revealed herniated Fallopian tube, organ was reduced. Recovery.

Erichsen :[12] Age 37, acquired left strangulated hernia. Operation sac contained clear fluid and the *swollen* fimbriated extremity of the Fallopian tube which was tightly nipped at the neck of the sac. Tube was returned into abdomen. Recovery.

Ferd :[13] Child, age 3 weeks; at autopsy a hernial sac containing exclusively the fimbriated extremity of the Fallopian *tube was discovered* external to the round ligament. It was easily reduced, but returned immediately after pressure was removed.

DeFrancisco :[14] Age 32, acquired inguinal hernia of the left tube, irreducible. Operation; sac exposed and opened. Contained adherent tube; the latter was separated as much as possible; sac was separated from surrounding parts and closed with sutures and stumps replaced. Recovery.

Frank :[15] Age 21, left tubal hernia, acquired. Operation; removal of tube and sac; *recovery*. Had been operated on when *a child* for hernia on *same side*. No trace of ovary could be found in last operation.

Goepel :[16] Age 62, acquired right crural hernia, irreducible. Celiotomy; sac contained serous *fluid* and dilated Fallopian tube; it was removed, as was likewise the corresponding ovary, which was sclerotic. Recovery.

de Gouey[17] (of Rouen, in 1706): Young woman, hernial sac of right groin; when sac was opened, *clear fluid escaped*. (On reading original, this is seen to be evidently hernia of tube.) Inside another bag a live fetus, 6 inches long, was found; latter was removed, tying the cord. Placenta likewise came away; it was fastened to circumference of musculus obliquus externus.

Lejars :[18] Age 39, acquired inguinal hernia of the right tube; strangulation. Operation; sac contained blood-stained fluid and Fallopian tube; tube was excised with sac; it was gangrenous in places. A portion of the wall of the urinary bladder also became herniated through the internal ring in company with the hernial sac. Recovery.

Lentz :[19] Age 52, acquired crural hernia of the left Fallopian tube; dropsy of the hernial sac. On dissection, bloody fluid was evacuated. The Fallopian tube was ligated and excised with the sac. Recovery.

Jalaguier :[20] Age 19 months; since the age of 6 months right inguinal hernia. Operation; sac, formed by the canal of Nuck contained a knuckle of the right Fallopian tube. Excision, followed by recovery.

Kousmine :[21] Age 36; left acquired inguinal hernia; irreducible. Operation; after opening sac, large quantity of seropurulent fluid escaped. This disclosed a cystic Fallopian tube, the external half of the tube only occupying the sac. Recovery.

Maydl :[22] Age 47; acquired femoral hernia; irreducible. Operation; after incision, escape of hemorrhagic fluid, which disclosed knuckle of Fallopian tube in the femoral canal; the uterine half of the tube was converted into a cyst; the strangulated portion of the tube consisted of a loop, which had passed back into the abdominal cavity after having passed out through crural ring. He extirpated the sac containing the tube; also removed the corresponding ovary. Recovery.

Moller :[23] Age 46; right inguinal hernia, acquired. Herniotomy; sac was found to contain a pyosalpinx. On account of collapse operation was hastily ended. Recovery with a formation of a fistula.

Morf :[24] Age 24; left congenital inguinal hernia of the Fallopian tube; irreducible. Operation; sac was removed with its contents, together with left ovary; sac contained omentum, into which mass the tube was traced, its fimbriated extremity being completely surrounded by omental tissue; from it the infundibulo-pelvic ligament could be traced; passing out of sac. Recovery.

Morton and Butler: Case 1.—Age 46; acquired right inguinal hernia; irreducible. Operation; sac was found to contain right Fallopian tube and its fimbriated extremity. Reduced sac ligatured and cut away. Recovery.

Case 2.[25]—Age not known; strangulated right femoral hernia. Herniotomy; sac contained gangrenous omentum and gangrenous ruptured bowel and end of right Fallopian tube, which was gangrenous to the extent of half an inch. The patient died from shock twelve hours later. Autopsy.

Nelaton :[26] Child died twenty-four hours after birth; right inguinal hernia containing Fallopian tube.

Picque and Poirier :[27] Age 78; acquired obturator hernia; strangulation; death. Autopsy, sac formed by peritoneum contained a knuckle of intestine, an epiplocele and left tube with a part of its ligament.

Pollard (Bilton) :[28] Age 37; acquired strangulated femoral hernia. Operation; sac contained clear fluid and the swollen fimbriated extremity of the left Fallopian tube, which was tightly nipped at the neck of the sac. The constriction was divided and the tube returned into the abdomen. Recovery.

Salnelle :[29] Age 19 days; congenital hernia on the right side; strangulated. Operation. Sac was opened and was found to contain the right Fallopian tube, red and swollen. Death.

Scholler :[30]Age 20 days; congenital inguinal hernia; convulsions and death. Autopsy showed hernia of the right tube. It was red and swollen; the round ligament was a little shorter than that on the other side and the uterus slightly displaced.

de Vaucher :[31] Age 23; probably congenital inguinal hernia; irreducible. Operation; sac contained left Fallopian tube without ovary; sac and tube excised. Recovery.

Vogel :[32] Age 38; acquired inguinal hernia; irreducible. Operation; opening of the sac; escape of blood-stained fluid, disclosing right Fallopian tube in bottom of sac. The tube was returned into abdominal cavity; the sac removed. Recovery.

Voigt :[33] Age 36; acquired right inguinal hernia; irreducible. Swelling "opened," discharged a serous fetid pus, after which patient's general condition improved. The next day a small black, gangrenous body was found in the dressings, which was recognized as the Fallopian tube. Recovery.

Thomas :[34] Age 36; acquired hernia on the right side; irreducible. Omental hernia on the left side, reducible. Operation. Right crural hernial sac contained the fimbriated extremity of the Fallopian tube. Gimbernat's ligament (crural hernia) was nicked and the hernia reduced. Recovery.

Trinci :[35] Age 47; X-para; crural hernia; irreducible; appeared after last pregnancy; symptoms of strangulation. Operation; sac contained the right tube; resection of the tube above the strangulated point; radical cure. Recovery.

Vassal :[36] Reports another observation by Broca. Child, age 14 months; congenital inguinal hernia; strangulated *for* twenty-four hours. Herniotomy, the tube was *found in the* sac. Temperature after operation 37.4 C.; the following days, 37. Recovery.

Waldeyer :[37] Demonstrated before the Obstetric and Gynecologic Society of Berlin, June, 1896, an inguinal hernia, in which lay a tube.

Walter[38] Aged 14 months; at 6 weeks of age tumor was first observed in inguinal region. Operation; the hernia contained a loop of small intestine and the Fallopian tube strangulated moderately. Reduction. Recovery.

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[3] Bull. de la Soc. Anat. de Par., 1842, p. 143.
[4] L'Experience, 1839, p. 216.
[5] Lyon Medical, 1899, vol. xci, p. 231.
[6] Beit. z. klin. Chir., vol. iv, 1889, p. 32.
[7] Ed. Med. Jour., January, 1871, p. 601.
[8] Annales de Gynec., 1900, vol. liii, p. 203.
[9] Annals of Surgery, 1904, vol. xl, p. 154.
[10] Société Anatomique, 1854, p. 72.
[11] Bull. de la Soc. med. de la Suisse romande, 1878, p. 115.
[12] Science and Art of Surgery, vol. ii, Tenth Edition, p. 1297.
[13] Rev. mens. de Med. et de Chir., 1878, vol. iii, p. 479.
[14] Beit. z. klin. Chir., 1900, vol. xxiii, No. 2.
[15] Internat. klin. Rundschau, Wien, 1892, vol. vi, p. 1098.
[16] Berichte der med. Gesellschaft, zu Leipzig, March, 1896.
[17] La veritable Chir. etab. s. l'experience et la raison, Roan, 1716, 5 partie, p. 401.
[18] Revue de Chirurgie, 1893, vol. xiii, p. 13.
[19] Gazette Med. de Strasbourg, 1881, No. 9, p. 97.
[20] Schultz: Thèse de Paris, 1898.
[21] Revue de Chirurgie, April, 1895, p. 313.
[22] Wien. Klin. Rundschau, 1895, vol. ix, p. 17.
[23] Hygiea, 1894, No. 5, p. 431.
[24] Annals of Surgery, 1901, vol. xxxiii, p. 247.
[25] London Lancet, Feb. 17, 1894, p. 403.
[26] Elements de path. chir., 1857, vol. iv, p. 440.
[27] Revue de Chirurgie, 1892, vol. xii, p. 330.
[28] Erichsen: *Science and Art of Surgery*, vol. ii, p. 1297.
[29] Thèse de Paris, 1880, p. 84.
[30] Gazette Med. de Paris, 1840.
[31] Thèse pour la doctorat, 1854, p. 45.
[32] Centralbl. für Gynäk., 1886, vol. x, p. 166.
[33] Hufeland: Jour. der pract. Heilkundl., 1809, No. 3, p. 139.
[34] Brit. Med. Journ., 1896, vol. xi.
[35] La Clinica Moderna, 1904, *No.* 22.
[36] Thèse de Paris, 1895.
[37] Centralbl. f. Gynäk., 1896, vol. xx, p. 792.
[38] Schultz: Thèse de Paris, 1895.

Walther (G. Th.):[69] Age —; right inguinal hernia. Operation; sac was found to contain a cystic dilated accessory. Fallopian tube (congenital malformation).

Walther (G. Th.):[39] Age —; right inguinal hernia. Operation; displaced to the right. The right tube and corresponding tubo-ovarian ligament extended into right inguinal ring. On left side, internal inguinal ring was occluded by fimbriated extremity of the left tube passing into it.

Case 2.[41] Age 6 months; congenital inguinal hernia of the left tube found; postmortem the sac contained the tube only. The left ovary was situated in the internal iliac fossa on the right side; tube and ovary occupied their normal position. Uterus was displaced to the left.

Wyeth:[42] Age 38; strangulated right inguinal hernia; when sac was opened congested Fallopian tube was found; pus and feces welled up from the abdominal cavity through the neck of the small loop of intestine was found gangrenous, ruptured; death six hours after operation.

SUMMARY OF ABOVE CASES OF HERNIA OF THE TUBE WITHOUT HERNIA OF THE OVARY.

Inguinal	27	Obturator	2
Femoral	14	Not stated	3

Table 1.—Inguinal Hernia.

	Age.	Acquired or Congenital	Side.	Operatiion.	Result.	Contents of Sac.
Andrews, 1	32	A	R	Returned during laparotomy.	R	Tube.
Andrews, 2	23	A	R	Excision	R	Pyosalpinx.
Brunner	38	A	R	Returned by operation.	R	Tube and clear fluid tinged with red.
Dolbeau	..	..	..	Incision of abscess.	D	Postmortem showed tube.
Dupont	38	A	..	Returned by operation.	R	Tube and clear fluid.
Féré	3 weeks	C	..	Postmortem	..	Tube.
de Francisco	32	A	L	Returned by operation.	R	Tube.
de Goney	Young lady	..	R	Removal of extrauterine fetus.	..	Pregnant tube surrounded by clear fluid.
Jalaguier	19 mo.	C	R	Excision	R	Knuckle of tube in canal of Nuck.
Kousmine	36	A	L	Excision	R	Cystic dilated tube in sero purulent fluid.
Lejars	39	A	R	Excision	R	Tube and part of bladder blood-stained fluid.
Möller	46	A	R	Operation	R	Pyosalpinx.
Morf	24	C	L	Excision	R	Tube and omentum.
Morton and Butler.	41	A	R	Returned by operation.	R	Tube.
Nelaton	1 day	C	R	Postmortem	..	Tube.
Salnelle	19 day-	C	R	Operation	D	Tube, strangulated.
Scholler	20 days	C	R	Postmortem	.	Tube red and swollen
Vassel	14 mo.	C	.	Operation	R	Tube, strangulated.
de Vaucher	23	C	L	Excision	R	Tube.
Vogel	28	A	R	Returned by operation.	R	Tube and bloody fluid.
Voight	36	A	R	Incised	R	Cube and serous, fetid pus.
Waldeyer	....	..		....	?	Tube.
Walter	14 mo.	C	..	Returned by operation.	R	Tube and intestine.
Walther	?	C	R	Operation	?	Cystic, dilated, accessory tube.
Wiart, 1	2 mo.	C	D	Postmortem	..	Tube alone in each hernia.
Wiart 2	6 mo.	C	L	Postmortem	..	Tube.
Wyeth	38	..	R	Excision	D	Tube, gangrenous intestine. Pus and feces walled up.

ANALYSIS OF TABLE OF INGUINAL HERNIA.

Acquired	11	Right	15
Congenital	12	Left	5
Not stated	4	Double	1
		Not stated	6
Total	27		
		Total	27

Found postmortem (all infants)	5
Deaths after operation	3
Recoveries after operation	17
Result not stated	2
Total	27

VISCERA CONTAINED IN SAC.

Tube and part of bladder	1
Tube and omentum	1
Tube and intestine	2
Tube alone	23
Total	27

In eleven cases the sac contained fluid.

Clear fluid	3
Bloody fluid	2
Pus	6

The ages range from birth to 46 years.

Table 2.—Femoral Hernia.

	Age.	Acquired or Congenital.	Side.	Operation.	Result.	Contents of Sac.
Andrews, 1 (Judd's case.)	56	A	L	Returned by operation.	R	Tube, strangulated; intestine and broad ligament.
Andrews, 2 (Haberlin's case.)	45	C	R	Excision	R	Tube, epiploon and serous fluid.
Aubry	70	?	?	Postmortem	..	Tube.
Berard	45	A	R	Puncture	D	Tube and clear fluid found postmortem.
Boudin	50	A	.	Operation	R	Tube.
Brunner	68	A	R	Returned by operation.	..	Tube, clear fluid and a lipoma.
Deaver	?	?	R	....	?	Tube.
Goepel	62	A	R	Excision	R	Tube and serous fluid.
Lentz	52	A	L	Excision	R	Tube and bloody fluid.
Maydl	47	A	..	Excision	R	Knuckle of tube and bloody fluid.
Morton and Butler.	?	?	R	Excision	D	Tube, omentum and bowel gangrenous; intestine ruptured.
Pollard	37	A	L	Returned by operation.	R	Tube and clear fluid.
Thomas	36	A	R	Returned by operation.	R	Tube. (On l. side was an omental hernia)
Trinci	47	A	R	Excision	R	Tube, strangulated.

ANALYSIS OF TABLE OF FEMORAL HERNIA.

Acquired	10	Right	8
Congenital	1	Left	3
Not stated	3	Not stated	3
Total	14	Total	14

Found postmortem	1
Death after operation	2
Recoveries after operation	10
Not stated	1
Total	14

VISCERA CONTAINED IN SAC.

Tube and part of bladder	1
Tube intestine and part of broad ligament	
Tube and omentum	1
Tube and epiploon	1
Tube alone	11
Total	14

In Brunner's case there was, beside the tube, a lipoma in the sac. In seven cases the sac contained fluid.

Clear fluid	4
Bloody fluid	2
Fecal matter	1

The ages range from 36 to 70 years.

Table 3.—Obturator Hernia.

	Age.	Acquired or Congenital	Side.	Operation.	Result.	Contents of Sac.
Chiene	73	?	D	Postmortem	..	Tube.
Picque and Poirier.	78	A	L	Postmortem	..	Tube.

Table 4.—Kind of Hernia Not Stated.

	Age.	Acquired or Congenital.	Side.	Operation.	Result.	Contents of Sac.
Demoulin	?	?	?	Operation	?	Tube.
Erichsen	37	A	L	Returned by operation.	R	Tube.
Frank	21	A	L	Excision	R	Tube.

As hernia of the Fallopian tube, without the ovary, constitutes less than 10 per cent. of the recorded cases of hernia of the pelvic organs, it is evident that a description of the anatomy and the etiology may be best considered in a future paper dealing with the greater subject. Pathologic conditions within the tube may also be better discussed then.

The diagnosis, before the opening of the sac, has not been made, but, perhaps, in the case of a small painless hernia the tilting of the uterus toward the hernia might be sufficient evidence that the sac held only the tube.

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[39] Centralbl. f. Chir., 1897, vol. xxiv, p. 771.
[40] Bull. de la Soc. Anat., July, 1898, vol. lxxiii, p. 537.
[41] Annales de Gynec., 1900, vol. liii, p. 202.
[42] Annals of Surgery, 1894, vol. xix, p. 6.

DISCUSSION.

Dr. T. B. Eastman, Indianapolis, said that a woman was referred to him with what had been diagnosed as a labial abscess on the right side. It had been incised several times, but the discharge continued. Dr. Eastman made a free incision and after a rather difficult dissection he came on a badly inflamed appendix which was open at the end and discharging pus. Of course this was responsible for the patient's condition. Dr. Eastman removed the appendix and the patient made a good recovery.

Dr. A. Goldspohn, Chicago, stated that a number of years ago a woman of at least 60 years of age came under his care as a hospital patient. She had always been fairly healthy, and she had a femoral hernia of small dimensions that had not given her much trouble. It became irreducible, however, and occasioned more or less pain, and she had had something of a convulsion, as her illiterate relatives described it. Examination showed a small tumor in the region of the left femoral ring, corresponding to a femoral hernia, that was not reducible by ordinary taxis. On opening the sac the ovary became apparent; it was adherent, with a small amount of omentum. The operation presented no difficulty and the patient made a good recovery.

SOME COMPLICATIONS OF PREGNANCY. TREATED SURGICALLY.*

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Within comparatively few years, our knowledge of appendicitis and neoplasms, complicating pregnancy, has been considerably increased.

As a rule, the surgeon has been called to treat these conditions, and therefore they have been studied more from the standpoint of the influence of such operations on pregnancy than of pregnancy on conditions which otherwise might be considered operative.

In this country continuous observation of a woman during pregnancy is almost unknown.

The number of complicated cases, therefore, which have been observed by any one individual has been limited. It is true that in some well-to-do families observation is practiced; but as the importance of this observation is recognized, the occasions for it decrease.

Most obstetrical cases are in charge of general practitioners, and this condition will, undoubtedly, continue. The combination of a skilled obstetrician and surgeon is not a common one, and while the obstetrician may be most skillful in all that pertains to diagnosis of position and in the performance of obstetrical operations, the men in charge of these cases still turn to the surgeon when other operative complications are present.

Surgical interference has also been encouraged by the attitude of obstetricians toward "operative delivery" in cases which may be called, from the surgical standpoint, uncomplicated. This is on the increase, especially in large cities,[1] and, undoubtedly, tends to encourage surgical intervention in a growing list of obstetrical conditions. The practitioner, who has seen the development of "surgical trusts" under the name of "hospitals," hesitates when he considers what his financial end is to be if he further countenances the fallacious idea that patients can not be successfully treated at home.

On the other hand, the desire for personal consideration and to remain at home, if possible, is still strong among those who have not contracted "the hospital habit."

With the large number of competent operators who desire only fair remuneration for services rendered it rests with the general practitioner whether or not he will lose the best part of his practice among the great middle class as he has lost it among what may be considered the opulent poor and the economically inclined opulent.

The care of the pregnant woman is by far our most important duty, and any improvement in treatment or in the care which tends to lessen her dangers during this trying period is of utmost importance.

The value of recognizing deviations from the normal early in the conduct of these cases can not be overestimated; acting with conservative promptness in the presence of dangerous complications will save many lives, both fetal and maternal.

Surgical interference is more important in certain conditions in the pregnant than in the non-pregnant.

It has long been an accepted fact that high maternal temperatures are dangerous to intrauterine life, and that when the temperature runs over 104 F. for a continued period of time, no matter from what cause, it is invariably fatal to the child *in utero*.[2]

Suppurative conditions with much lower temperature are dangerous, especially if the process is active in close relation to the uterus.

The study by Straviskiadis of twenty-four cases, including pneumonia, typhoid fever, pyemia, etc., in which macroscopic, microscopic and bacteriologic examinations were made, is a distinct addition to our knowledge of this subject. His conclusions are: 1. An acute endometritis which is often hemorrhagic is of frequent occurrence in acute, infectious disease. 2. This inflammation is caused by the specific bacteria that caused the disease or a complication. 3. Particularly favorable conditions are present during pregnancy and the puerperium for the increase of the bacteria which reach the uterus through the blood current. 4. Abortion or premature labor is frequently due to endometritis of hematogenous origin.[3]

The intimate relation existing between the appendicular lymphatics and those of the broad ligament is of importance in determining the influence of septic conditions of the appendix on pregnancy;[4] but the hematogenous channel, in view of the fact that there is increasing evidence that septic emboli may cause disturbances in the gastrointestinal mucous membrane and elsewhere seems the most probable route of endometrial infection.[5]

APPENDICITIS.

Appendicitis frequently complicates pregnancy. The condition of obstinate and continued constipation which is so frequent during pregnancy must be looked on as a predisposing cause. Add to this increasing deviation from the usual physiologic condition of the pelvic organs of women between the ages of 15 and 45, the mechanical disturbances and congestion resulting from the rapidly growing uterus, and the wonder increases that troubles are not more common. In many cases an absolute diagnosis has not been made, because of the mildness of the symptoms.

In the diagnosis of appendicitis during pregnancy the usual signs may be obscured. Vomiting is often concurrent with pregnancy. As a rule, the pain is localized at the diaphragmatic attachments, while acceleration of the pulse and elevation of the temperature are exceptional.[6]

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Voorhees: Am. Jour. Ob., January, 1905.

[2] MacPhatter: New York Med. Journal, 1901.

[3] Monat. F. Geb. und Gyn., Berlin, 1903.

[4] Clado: Bend. Soc. de Biol., Paris, 1892, vol. iv.

[5] Fowler: Brooklyn Med. Jour., July, 1903.

Incessant vomiting may be due to uremia, and abdominal pain with vomiting has been seen "preceding uremic convulsions of puerperal nephritis."[7]

The importance of leucocytosis, if found, associated with localizing pain, during the first six or seven months of pregnancy, is considerable in making a diagnosis. Its value as far as indicating need of operation is apt to be overrated. "At the same time, leucocyte counts are valuable, and a rising count is of more importance than the absolute number."[8]

A constant, high leucocytosis (20,000 to 30,000) in appendicitis always points to the existence of a purulent process, providing there are no other complications to which the leucocytosis may be attributed. "In diffuse peritonitis the leucocyte count loses its certainty."[9]

Taken by itself, it is apt to be misleading, but taken in connection with other signs, it may be of great value in doubtful cases.

There is but one point in the diagnosis which I wish to emphasize: If there is cessation of pain without amelioration of local signs, operation is indicated at once.

The relief of tension brought about by perforation of the appendicular wall will be followed, in a few hours, by *an increase in the infected area, making the* results of an operation more doubtful.

The first case here reported is one of appendicitis complicating pregnancy, in which a gangrenous appendix was removed at three and one-half months, and in which, aside from a few uterine contractions set up by the removal of gauze drainage, on the fourth day proceeded to term and the patient had a normal confinement.

Case 1.—Mrs. L. W., aged 36, had been married three years.

History.—In October, 1900, gave birth to a son; labor was tedious, but aside from this there was nothing abnormal noted about the pregnancy or the puerperium. She became pregnant again in May, 1901. On Aug. 9, 1901, about 11 p. m., she was seized with a severe pain in the epigastrium, accompanied by nausea and vomiting; the bowels were and had been constipated; the symptoms continued through the night.

Examination.—Dr. H. W. Dudley of Abington was called on the morning of August 10; he found the patient with a temperature of 100 F., pulse 90. Pain was unremittent and the vomiting continued. There was marked rigidity of the abdominal muscles, especially on the right side, and the pain, worse at first in the epigastrium, had localized at McBurney's point. Hot fomentations were applied, and the same afternoon I saw her in consultation with Drs. Dudley Wheatley of North Abington and Osgood of Rockland, the two latter afterward assisting at the operation. At 5 p. m., when I saw her for the first time, the pain of which she had been complaining had in great measure ceased and there had been no nausea for some hours. Temperature was 100.5, pulse 110. Rigidity of the abdominal muscles was very marked, especially of the right rectus, and even moderate pressure over location of the appendix gave rise to pain. Believing that the cessation of pain without amelioration of local signs was not a favorable symptom, and not willing to temporize on account of the existing pregnancy, operation was advised.

Operation.—The usual preparations for an operation in a private house were made.[10] Under ether, a two-inch incision, afterward enlarged to three, was made through the outer border of the right rectus muscle. On opening the peritoneum, the appendix was found directly under the incision; it was dark colored, full of concretions and surrounded by purulent serum which was partially walled off by fresh adhesions of the omentum. Cloudy serum also welled up from the direction of the pelvis. This was carefully sponged out. The appendix was removed in the usual way, one strip of gauze packing was passed down to the stump and another strip passed down to drain the pelvis. The incision was closed by through-and-through sutures of silkworm gut, except for about an inch at lower angle of incision, through which the gauze drains were brought out.

Result.—From the time of operation until the gauze was removed, four days later, there was nothing out of the ordinary to report. After the packing was removed, the patient had two or three attacks of syncope which seemed quite threatening, accompanied by regular rhythmical pains, threatening abortion, but the pain was easily controlled by morphin sulphate administered subcutaneously, and the syncope was treated by alcoholic stimulation.

Subsequent History.—Recovery from this point was uneventful, and the patient was up in three weeks, the abdominal incision being entirely closed. Pregnancy continued until Feb. 26, 1902, when the patient was delivered of an eight-pound daughter. Labor was easy. There was no pain or bulging in the cicatrix from operation. In fact, there has been at no time during the pregnancy or puerperium any bulging of the scar.

Abortion, from conditions either present at the time of operation or which develop after such interference, adds much to the gravity of the prognosis.

Obstruction of the bowel or ileus is not uncommon, especially after operation for suppuration. Operation causes a change in the peritoneum, so that the clinical picture is entirely changed and the usual warning signs are absent.

Temperature and pulse with obstruction may be normal. There may be no marked distension, there may be continued vomiting of dark or fetal matter. There are no colicky attacks.

The most important diagnostic sign is dullness in the flanks, which progressively increases.

Next to this in importance is the facial expression, which, with obstruction, is drawn and anxious.

There is no pain and the patient is comfortable aside from the trouble of vomiting.

There is absence of marked abdominal rigidity.

Treatment consists in change of position, cathartics, followed by enemata, and large doses of atropin until appearance of toxic effects. If response to this treatment is not reasonably prompt, reopening of the wound, with incision of distended loops of intestine, followed in severe cases by tying a Mixter tube into the cecum will give the best results.

The second case was complicated by ileus. There was a fecal fistula and the abortion of a dead fetus. Recovery took place, with spontaneous healing of fecal fistula.

Case 2.—Dr. R. M. Birmingham, Lawrence, Mass.

Patient.—Mrs. S., aged 28; had been married six years. She has had four children; no accident or miscarriage. She has had no sickness other than periodical attacks of pain in the right iliac fossa during each pregnancy. With these attacks there was nausea, but all trouble was attributed to a growing uterus.

Present Illness.—About 5 o'clock on the morning of April 25, 1904, when she was about three months pregnant, she was seized with extremely sharp and colicky pains in the right iliac fossa; this was followed by collapse. Dr. Birmingham was called and advised immediate operation, to which the family would not agree until the afternoon of the same day.

Operation.—In the afternoon, assisted by Drs. Birmingham and Magee, I operated and found a gangrenous appendix surrounded by about two ounces of purulent matter. There was slight evidence of an attempt at walling off. A gauze drain was inserted. The vomiting, which had been present from the beginning, continued, but little distension developed.

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[6] Pinard: Bull. de l'Acad. de med., Feb. 14, 1899.
[7] Musser: Am. Med., vol. i, 1904.
[8] French: The Practitioner, London, June, 1904.
[9] Goetjes: Münch. med. Wochft.
[10] Donoghue: Boston M. and S. Jour., Dec. 6, 1900.

Postoperative History.—The temperature remained between 99 and 100, but the pulse gradually increased in frequency. Considerable fecal matter and gas was discharged following enemas. Slight vomiting or rather regurgitation persisted.

On April 29, not satisfied with her condition and influenced by the facial expression, under chloroform, the gauze drain was removed. The omentum was found to be down to the region of the appendix stump; back of this was a loop of intestine greatly distended and containing liquid feces.

The adhesion was freed and the distended loops of the intestine incised, emptied and sewed up with continuous Lembert suture.

As symptoms of ileus persisted, on May 30, at 11 p. m., a Mixter tube was tied into the cecum. A saturated solution of salts was administered, followed by three ounces of alcohol and water.

On June 7, labor pains came on and following manual dilatation a dead fetus was extracted. A fecal fistula persisted for six months and then closed spontaneously.

Pain in the right iliac fossa, which increases as the uterus enlarges and pushes up out of the pelvis, should be looked on with great suspicion. Especially is this true of cases in which abortion comes on, following such pain.

A history of one or more such abortions should suggest surgical interference, even if the physical signs do not point definitely to the appendix.

OVARIAN TUMORS.

Tumors of ovarian or tubal origin are dangerous from their position, obstructing delivery, from torsion of the pedicle in the case of the former, or from inflammation.

A differential diagnosis between ovarian, tubal or uterine tumors, if the tumor is low down in pelvic cavity, is often difficult or impossible.

Extrauterine pregnancy presents such a varied clinical picture that it never can be excluded in making a diagnosis.

The acceptance of the dictum that "neoplasms, wherever situated, should, if possible, be removed, no matter what their apparent nature,"[11] would solve most of the difficulties we encounter in endeavoring to make an accurate diagnosis in pelvic conditions before advising operation.

Reposition of a pelvic tumor, with the patient in the knee-chest position, and with or without ether, while not being free from immediate danger, does not, in any way, point toward the removal of the underlying condition, unless the tumor proves to be an incarcerated uterus.

The danger of attempting reposition of an extrauterine pregnancy is sufficiently obvious, while rupture of a cyst and intraperitoneal hemorrhage from ruptured adhesions have been frequently reported.

The danger of torsion of the cyst during manipulation can not be ignored.

If ether is to be given for examination, preparations for operation should be made in case an operative condition is discovered.

While the question of when to operate in the presence of a tumor has been much discussed, there can be no doubt but that operation as soon as diagnosis is made, will yield the best results, unless, indeed, a small tumor, which has given rise to no symptoms, be discovered late in the pregnancy. Even then, the patient should be carefully watched after delivery to see that torsion, rupture or degeneration of tumor from changed blood supply does not take place.

The most common cause of trouble with ovarian tumors, during pregnancy, is torsion of the pedicle. This may take place at any period of pregnancy, and is accompanied by an increase in size and tenderness over the tumor, while a sharp, stabbing pain is referred to the spot at which the torsion takes place. "This is sometimes accompanied by slight bleeding and bleeding pains."[12]

Under these conditions, prompt removal of the tumor is indicated and is followed by cessation of symptoms referred to the uterus. It will add little, if any, to the maternal danger should miscarriage follow.

Graefe,[12] in a study of 178 cases of ovariotomy, undertaken during pregnancy, found that the mortality of the mothers in the entire list was 2.3 per cent. One of the deaths occurred three months after the intervention, and one death was inevitable, as extensive gangrene was found during the operation. The last 126 operations contain only this one fatality. In 119 cases the pregnancy was interrupted by the intervention in only 19, or 16 per cent. In the last series of 27 abortion followed in 5 and premature delivery in 3. This series includes the American cases of Jarman and Kahn. The pregnancy continued undisturbed in two cases, in which there were numerous adhesions or torsion of the pedicle of the tumor. In the cases in which abortion occurred, there must have been some predisposition to it, possibly from decidual endometritis as the trauma of the intervention was slight. Abortion would probably have occurred without the operation. The statistics show that ovarian tumors, during a pregnancy, induce abortion in 17 per cent. of the patients if left unoperated on. After ovariotomy, the pregnancy was interrupted in only 22.5 per cent., and a third of this number presented urgent invitations for surgical relief. The results of expectant treatment have been a maternal mortality of 39.2 per cent., and a fetal of 67 per cent., according to Orgler's and Winckel's statistics. Six of the cases in the series demonstrate that even after evidences of intending abortion have appeared, prompt ovariotomy will afford relief, and the pregnancy will continue its course uninterrupted.

Heil[13] adds to Graefe's statistics five new cases personally observed, and others he has collected, bringing the total to 241. He tabulates the later series, and emphasizes the necessity for careful examination of every pregnant woman who complains of pains or other disturbance indicating some irregularity in the genital sphere. If the diagnosis wavers between extrauterine pregnancy and intrauterine pregnancy with an ovarian cyst, a laparotomy is indicated at once. An ovariotomy is by far a lesser evil than the overlooking of an extrauterine pregnancy, especially for a patient who is not under constant medical supervision. He advocates leaving the tube, if possible, when operating during a pregnancy, to avoid traction on the uterus.

In case a tumor is discovered at parturition, obstructing delivery or impacted in the pelvis, the treatment should be Cesarean section, followed by removal of the tumor.

CASE 3.—Dr. R. M. Birmingham, Lawrence, Mass.

Patient.—Mrs. M., aged 29, had been married three years at the time of operation.

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[11] Richardson: THE JOURNAL A. M. A., Jan. 9, 1904.

[12] Graefe: Munich. Med. M. A., Oct. 28, 1902.

[13] Heil: Munch. Med. Ma. February, 1904.

History.—She had one other child, no miscarriages. During the first pregnancy she had severe pain from the beginning, and morphin sulphate in doses of gr. 1/12 was given subcutaneously from time to time. After delivery a tumor to the left of the median line was discovered. Some time after this confinement she had severe pain in the abdomen, followed by nausea and vomiting, and went to the Carney Hospital for treatment. Another pregnancy was suspected, and she was sent home with instructions to report later. Eleven weeks after returning from the hospital she had sudden colicky pain in abdomen and increase in the size of the tumor.

She had been uncomfortable for two or three days, and woke early on the morning of April 19, 1904, with a sudden, sharp, severe, stabbing pain in the lower part of the abdomen. She had nausea and vomited once. Her face was drawn. A large movable tumor, the size of a child's head, could be easily outlined in the lower right quadrant of the abdomen. Temperature was 99, pulse 110.

Operation.—Incision was made through the left rectus muscle. A large ovarian cyst, dark and hemorrhagic, from twisting of pedicle, was removed from the left side. A long free appendix containing a concretion was also removed. Recovery from operation was uneventful. The patient was out of bed on the fourteenth day. On Dec. 12, 1904, she was confined in an uneventful labor and delivered of a boy. There was no bulging in the scar and abdominal wall is perfectly solid.

Retarded menstruation, sharp, colicky and abdominal pain, and a growing tumor in the neighborhood of the uterus, strongly suggest extrauterine pregnancy, and that condition should be borne in mind in making an operative diagnosis.

As a positive diagnosis can only be made after the abdomen has been opened, there is little justification for delay.

If, at the operation, an enlarged tube, which does not prove to be impregnated, is found; or a small cyst of the ovary, which may be resected without difficulty, the patient has suffered in no way from the operation. On the other hand, the chance of a serious crisis, if the case be one of extrauterine pregnancy, should far outweigh any objection to surgical interference.

Case 4.—Patient of Dr. W. G. Brown, Plymouth, Mass., was seen Oct. 5, 1904, at the Jordan Hospital.

Patient.—Mrs. C., ten weeks pregnant.

History.—For eight weeks previously she had had increasing nausea, until nothing solid or liquid was retained. The smell of food caused severe retching with great pain. There had been severe pain in the right iliac region since the nausea began.

Vaginal Examination.—To the right and back of the uterus a tumor the size of a hen's egg could be felt, extremely tender, and causing great pain when pressed on.

Operation.—Assisted by Dr. E. D. Hill of Plymouth, I opened the abdomen and removed a prolapsed cystic left ovary. The uterus was also caught forward by two sutures to the abdominal wall.

Result.—There was good recovery from operation. The nausea and pain were immediately relieved. The patient left the hospital in three weeks, and nothing unusual took place during rest of pregnancy.

On May 24, 1904, after a labor of fourteen hours' duration, she was delivered normally of a male child, weighing 7½ pounds. The labor was in every way normal, and much more comfortable than the former one, the woman having had one child previous to this pregnancy.

FIBROIDS.

When pedunculated, fibroids closely simulate ovarian tumors, and are liable to the same kind of accidents, while subperitoneal or interstitial fibroids may cause trouble in various ways. Change in the tumor itself, or in its relations, and the cardiac, vascular and nephritic changes which take place with tumor development, all make for early operation, at least during the childbearing ages.

Dr. Franklin H. Martin,[14] in an analysis of 1,188 cases of operation for fibroids, at the hands of A. Martin, Noble, Cullingworth, Frederick, Scharlieb, and a series reported by Kanner and by McDonald, to which he adds 200 of his own, forcibly shows the difficulty of exact diagnosis and notes the presence of unrecognized, serious complications, diagnosis of which was only possible by operation.

In the 1,388 analyzed cases presented in his paper, the operations revealed 32 cases of carcinoma of the body of the uterus, 24 cases of unsuspected sarcomas of the uterus, 70 cases of necrosed tumors, which were very liable to become infected and to cause death, 53 cases of intraligamentous development of the tumor, which are so liable to produce kidney complications by ureteral pressure, and many other serious symptoms; 8 adenomyomas, 2 pregnancies menacing the life of the patient; 5 ectopic pregnancies, 8 dermoid cysts, 97 suspected or unsuspected true ovarian cysts, 12 parovarian cysts, 72 cases of pyosalpinx, 20 cases of appendicitis, 7 cases of intestinal obstruction, 2 cases of acute intestinal obstruction, 2 cases of obstructed ureters, 2 cases of hydronephrosis from pressure.

In this list these serious conditions, incurable without operation, and unsuspected in the majority of instances, represented 31.6 per cent. of all patients operated on. This is the most instructive and startling thing about this analysis. Nearly one-third of all the cases in which operation was performed were complicated with conditions very liable to prove fatal. This does not take into consideration serious symptoms, the size of the tumors and the various degenerations which are not necessarily fatal, and which are set forth in the same table.

When we take into consideration symptoms, as shown in his 200 cases, we have interesting food for contemplation. Dangerous hemorrhage occurred in 41 cases, or 20.5 per cent.

Whether or not it is antecedent sterility that is the important causative factor in the growth of fibroids, or whether the fibroid condition is the cause of the sterility, the fact remains that fibroids are often found complicating pregnancy. The management of a pregnancy, so complicated, depends on the size and situation of the tumor. This increase in size of the tumor is due simply to its taking part in the hypertrophy common to the uterus.[6]. During pregnancy fibroids almost invariably become flattened.

"The most important or most fortunate change which may take place in the fibroid, irrespective of whether or not it is interstitial, subserous or submucous, is the development of edema with resulting softening."

This allows a subserous tumor, if situated within the pelvis, to slip out past the presenting head, causing the disappearance of apparently hopeless obstruction, and allowing a normal delivery; or it may be compressed into a thinner and broader mass and thus allow the free passage of the child.

After the labor, the fibroid again resumes its prominent shape.

In the great majority of cases, the fibroid in the latter months of pregnancy so changes its location as to leave the pelvic canal free for the passage of the fetus.

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[14] N. Y. Med. Jour., June 17, 1905.

Remarkable examples of this are reported in cases in which the tumor filling the whole of the true pelvis has risen spontaneously out of the pelvis and normal labor has occurred.

Hamilton[15] records a very rare case, in which he was called to a woman after labor, in whose uterus the presence of two subperitoneal myomata had already been diagnosed. Dr. Scott had delivered the child and placenta without difficulty, but some twenty hours afterward was sent for in a hurry, on account of the sudden collapse of the patient. He diagnosed intraperitoneal hemorrhage and sent for Dr. Hamilton. The patient was blanched and restless, the abdomen was tympanitic, and an area of dullness had rapidly formed in the right flank.

Abdominal section was performed, and on opening the peritoneal cavity a large quantity of blood escaped. In searching for the source of this bleeding, a ruptured vein of large size was found on the surface of one of the subperitoneal myomata, from which blood was freely escaping. The myoma was enucleated.

Examination showed that a piece of omentum had become adherent to the capsule of one of the tumors. Uterine contractions had probably separated this omental attachment and opened the vein. Good recovery ensued. He mentions that six members of this patient's family had suffered from myomas of the uterus.

Fibroids rarely become necrotic during pregnancy, but cases sometimes occur in which the tumor breaks down in the center, peritoneal adhesions sometimes form and may cause incarceration and abortion.

Dr. Carmalt[16] reports a very interesting case of complicated uterine fibromyoma. Operation was performed and the patient recovered and subsequently became pregnant.

That portion of the history of the case which is of interest in connection with consideration of danger at deliveries follows:

> After three miscarriages, the patient became pregnant in May, 1902. By that time it was apparent that there was a large, rapidly growing fibromyoma or myomata, in the anterior wall of the cervix, and lower uterine segment pressing on the bladder, as well as filling the upper vagina so completely that the cervix could not be reached. The patient declined to have labor induced, and we decided to do Cesarean section whenever labor commenced, the period of pregnancy being very doubtful. Preparations were made and labor commenced, but before the arrival of assistants the uterine contractions lifted the tumor out of the pelvis and drove the child down to the perineum. Although this took place in less than half an hour, the length of the vagina was so great that the child was asphyxiated before I delivered it. Faithful, artificial respiration, hot and cold water, and stimulation failed to restore breathing. The patient's convalescence was uninterrupted, and the tumor (apparently the size of a child's head) shrank to less in size than a small egg. (Afterward it grew rapidly.) Oct. 25, 1903, celiotomy performed. The tumor was found occupying the anterior wall of the uterus, encroaching on the bladder below and extending into the left broad ligament. There was no pedicle, myomectomy was performed and the patient recovered and subsequently became pregnant. She was delivered Sept. 15, 1904, of a 10¼-pound boy.

It is the experience of obstetricians that "labor very seldom finds one of these tumors in the way," and this should make us conservative about operation during the latter months of pregnancy unless symptoms of pressure appear.

Dr. Mixter,[17] in the report of the first case in this country of Porro operation for multiple myomata, in which mother and child were saved, reported the condition of the pelvic outlet as follows:

"Examination showed a solid, immovable mass, filling nearly the whole pelvis. The finger could with difficulty be passed between this and the pubes and a partially dilated os could be felt. This in spite of the fact that the woman, while in labor, had travelled a hundred miles to reach the hospital."

Since the report of this case, a large number of similar cases treated in like manner, have been reported by various operators, and suggest that when a diagnosis of tumor is made, the general practitioner should send for his usual operating consultant rather than for other obstetrical help.

The pedicle of a subserous fibroid occasionally undergoes torsion during pregnancy, followed by peritonitis and interstitial hemorrhage. This gives rise to symptoms which may be obscure and accurate diagnosis may be possible only at operation, as in the following case:

Case 5.—Dr. A. A. MacKeen, Whitman, on Dec. 5, 1904, was called to New Hampshire to see Mrs. L., aged 34, who had been married the previous June.

History.—She had had persistent nausea and vomiting for three months, and obstinate constipation. She had menstruated last on September 24. She had a violent hemorrhage October 24, lasting only for a few minutes, and followed by intense pain in the lower epigastric region, with great weakness.

Examination.—On examination, Dr. MacKeen found a large mass occupying the posterior portion of the pelvis, immovable or only slightly movable. The os was slightly patulous.

Diagnosis and Treatment.—He formed the opinion that she was probably pregnant and had a fibroid. Possibly an ectopic gestation with early rupture. He had her brought to her home in Whitman. I saw her with Dr. MacKeen on December 10, and performed abdominal section, removing a large pedunculated fibroid from the posterior wall of the uterus. The patient made a good recovery. She was up three weeks after the operation. There was no amount of uterine pain after operation. The constipation was somewhat relieved, and the nausea and vomiting were entirely cured. She had an uneventful confinement on July 4, 1905.

Fibroids present in a uterus after the age of 40 may give rise to symptoms which are sometimes attributed, before operation, to an increase in size or to a change in the character of the uterine growth. Operations have been repeatedly done under these conditions, and a pregnancy found as the basis for the apparent lighting up of the growth.

One case of mine was of this character, and there appears to be no way surely to escape from this error in diagnosis.

On moral grounds, the induction of labor early in pregnancy has no justification whatever. It is fully as serious as the performance of an operation to relieve the condition which complicates the pregnancy, and in the great majority of cases the pregnancy will continue to term.

CONCLUSIONS.

When there is a history of a well-marked attack of appendicitis in a young woman, operation should be performed as an antecedent to marriage.

With well-marked, acute symptoms, referable to the right iliac fossa, in the presence of pregnancy, operate at once.

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[15] Australian Med. Gaz., April 20, 1904.

[16] Am. Jour. of Obstetrics, January, 1905.

[17] Mixter: Boston, M. and S. Jour., Nov. 8, 1888.

History.—She had one other child, no miscarriages. During the first pregnancy she had severe pain from the beginning, and morphin sulphate in doses of gr. 1/12 was given subcutaneously from time to time. After delivery a tumor to the left of the median line was discovered. Some time after this confinement she had severe pain in the abdomen, followed by nausea and vomiting, and went to the Carney Hospital for treatment. Another pregnancy was suspected, and she was sent home with instructions to report later. Eleven weeks after returning from the hospital she had sudden colicky pain in abdomen and increase in the size of the tumor.

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It is the experience of obstetricians that "labor very seldom finds one of these tumors in the way," and this should make us conservative about operation during the latter months of pregnancy unless symptoms of pressure appear.

Dr. Mixter,[17] in the report of the first case in this country of Porro operation for multiple myomata, in which mother and child were saved, reported the condition of the pelvic outlet as follows:

"Examination showed a solid, immovable mass, filling nearly the whole pelvis. The finger could with difficulty be passed between this and the pubes and a partially dilated os could be felt. This in spite of the fact that the woman, while in labor, had travelled a hundred miles to reach the hospital."

Since the report of this case, a large number of similar cases treated in like manner, have been reported by various operators, and suggest that when a diagnosis of tumor is made, the general practitioner should send for his usual operating consultant rather than for other obstetrical help.

The pedicle of a subserous fibroid occasionally undergoes torsion during pregnancy, followed by peritonitis and interstitial hemorrhage. This gives rise to symptoms which may be obscure and accurate diagnosis may be possible only at operation, as in the following case:

Case 5.—Dr. A. A. MacKeen, Whitman, on Dec. 5, 1904, was called to New Hampshire to see Mrs. L., aged 34, who had been married the previous June.

History.—She had had persistent nausea and vomiting for three months, and obstinate constipation. She had menstruated last on September 24. She had a violent hemorrhage October 24, lasting only for a few minutes, and followed by intense pain in the lower epigastric region, with great weakness.

Examination.—On examination, Dr. MacKeen found a large mass occupying the posterior portion of the pelvis, immovable or only slightly movable. The os was slightly patulous.

Diagnosis and Treatment.—He formed the opinion that she was probably pregnant and had a fibroid. Possibly an ectopic gestation with early rupture. He had her brought to her home in Whitman. I saw her with Dr. MacKeen on December 10, and performed abdominal section, removing a large pedunculated fibroid from the posterior wall of the uterus. The patient made a good recovery. She was up three weeks after the operation. There was no amount of uterine pain after operation. The constipation was somewhat relieved, and the nausea and vomiting were entirely cured. She had an uneventful confinement on July 4, 1905.

Fibroids present in a uterus after the age of 40 may give rise to symptoms which are sometimes attributed, before operation, to an increase in size or to a change in the character of the uterine growth. Operations have been repeatedly done under these conditions, and a pregnancy found as the basis for the apparent lighting up of the growth.

One case of mine was of this character, and there appears to be no way surely to escape from this error in diagnosis.

On moral grounds, the induction of labor early in pregnancy has no justification whatever. It is fully as serious as the performance of an operation to relieve the condition which complicates the pregnancy, and in the great majority of cases the pregnancy will continue to term.

CONCLUSIONS.

When there is a history of a well-marked attack of appendicitis in a young woman, operation should be performed as an antecedent to marriage.

With well-marked, acute symptoms, referable to the right iliac fossa, in the presence of pregnancy, operate at once.

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[15] Australian Med. Gaz., April 20, 1904.

[16] Am. Jour. of Obstetrics, January, 1905.

[17] Mixter: Boston, M. and S. Jour., Nov. 8, 1888.

The same treatment should be applied when there is gradual increase of marked discomfort in the same region.

Operation should be advised, prior to marriage, if tumors of the uterus or appendages are known to be present.

The treatment of ovarian or uterine tumors, not recognized until pregnancy has occurred, should be governed by the conditions existing in the individual case.

At or near term, an operation may be performed which will remove the condition and, at the same time, permit the delivery of the child.

409 Marlborough Street.

DISCUSSION.

Dr. E. E. Montgomery, Philadelphia, is fully in accord with the conclusions drawn by Dr. Donoghue. There is no question, he said, that the existence of an appendicitis in a pregnant woman is a source of serious danger, and the fact that she has had repeated attacks of chronic appendicitis should be an indication for operation in the early stage of the pregnancy. The danger arising from an operation during the period of quiet would be far less than the patient would incur by continuing the possibility of the development of serious complications during the later stages of pregnancy. Dr. Montgomery has operated on such patients a number of times and the majority of them have done well. One woman had to be operated on during the seventh month of pregnancy. She miscarried, but recovered and has since given birth to two children. He also agreed with Dr. Donoghue in regard to operating on myomata. In many cases one can not tell what changes may take place during pregnancy, and unless the tumor is in the pelvis and interferes greatly with the circulation it is better to wait to see whether Nature is not able to lift the tumor out of the pelvis so as to be out of the way at the time of delivery. The presence of a growth of considerable size in the uterus may be the source of considerable trouble during delivery as the result of irregular contraction. Owing to the increased nutrition in the uterus, these tumors also grow rapidly, and sometimes it becomes necessary to operate in the later stages of a pregnancy on account of the discomfort and the danger of loss of life because of the size of the tumor. In cases in which the patient comes under observation prior to the fourth month of pregnancy and the tumor is of good size and situated in the lower arc of the uterus, it is preferable to open the abdomen and to enucleate the growth. Dr. Montgomery has done this in five patients, all of whom went on to term and were delivered without any unpleasant symptoms; nor did they suffer any discomfort or inconvenience during the convalescence. He also agreed with Dr. Donoghue that when an ovarian tumor complicating pregnancy is below the uterus it is certain to be a source of difficulty in the delivery. It may be possible to evacuate the contents of the tumor through the vagina, but by so doing the patient is subjected to several dangers. Its contents may be of such a character as to give rise to a serious peritonitis complicating the puerperium. It may be of the papilliform variety. If the tumor does not rupture, the pressure to which it is subjected may cause necrosis and the development of serious trouble during the puerperium requiring operative interference and endangering the life of the patient. For these reasons, if the tumor is situated in the pelvis below the developing uterus, the operation should be done as early in the pregnancy as possible. The danger to the patient is less than if we wait to see what Nature will do.

Dr. Charles S. Bacon, Chicago, said that he is particularly interested in the matter of ovarian tumors complicating pregnancy, having had some experience with these cases. He thinks that there is no doubt that all ovarian tumors should be removed as soon as they are diagnosticated, with the exceptions made by Dr. Donoghue. The possibility of the rapid growth of the tumor during the pregnancy, which is very common, the danger of pressure symptoms which result from that, and especially the great danger of disturbance of the puerperium, twisting the pedicle and interfering with the circulation, lead to this conclusion. When the tumor is discovered during labor, however, Dr. Bacon is not certain that the advice to operate at once is best. There is a different condition here, and it would seem that large tumors that fill the pelvis can be replaced fairly easily and safely by making use of the knee-chest position or the Trendelenburg posture, with anesthesia if necessary. The tumor usually can be replaced and labor go on. The case must be watched, and, when symptoms supervene, operation should be done. In fibroids, his experience is against operation, even in the early months of pregnancy. The serious complications in fibroids are not so common as one would expect, and very rarely do they become troublesome during delivery. If the tumor is not situated in the cervix or in the lower uterine zone, he thinks it is best to let it alone.

Dr. J. H. Carstens, Detroit, said that when he was an obstetrician he met quite a few cases of tumors of various kinds in which the patients died during delivery or shortly afterward, and it always impressed him strongly that these tumors should be removed. When he became an abdominal surgeon, he advocated the removal of these tumors, and some years ago he reported a few cases. An adherent tumor in the cul-de-sac can not be replaced; it must be removed, and as early as possible. A fibroid in the broad ligament growing rapidly, as these generally do, must be removed. A fibroid in the lower segment of the uterus or in the cervix, or at about the situation of the internal os, can often be removed through the vagina by lifting it up completely and enucleating the tumor. Of course, in cases of extrauterine pregnancy and appendicitis there is no question about operating during pregnancy. Strangulated hernias occurring during pregnancy must be operated on. Dr. Carstens had about thirty cases of operations during pregnancy, and he has found that women will stand an operation during pregnancy as well as at any other time. In fact, he believes that they usually stand it better. If the fibroid is down deep, a submucous fibroid, one can not tell beforehand how deep he is going down. The tumor may be over the site of the placenta, and the operator may cause some interference with the circulation of the placenta, producing fatty degeneration, and, as a result, an abortion takes place. Many more women die with tumor during pregnancy and labor than die if operated on promptly. Fibroids that are loose and movable and that are located above the brim of the pelvis, or that are subperitoneal, do not interfere with delivery. The woman will be delivered all right, and the tumor can be removed afterward. Sometimes, during subinvolution, these fibroids will be absorbed, but only in very rare cases.

Dr. W. B. Dorsett, St. Louis, emphasized the remarks made by Dr. Carstens, and related a case that occurred in his practice three years ago. A woman consulted him, complaining of much pain in the pelvis. She thought she was about three months' pregnant. On examination Dr. Dorsett found an incarcerated uterus, with a fibroid tumor of conical shape behind the promontory of the sacrum. He recognized that the woman was pregnant and operated. After opening the abdomen he lifted the entire mass, tumor and uterus, out of the pelvis, and on examining the tumor he was satisfied that it dipped down deep into the uterine wall, so he thought it best not to remove it. The woman went on to term and was delivered. The tumor now is not larger than a walnut, so, he thinks, we ought to speak conservatively about enucleation of fibroid tumors during pregnancy, because one can not always tell how deep they dip into the uterine wall. He operated not long ago on a case of ovarian tumor cyst in which pain was severe and that really demanded operation. The case had been deemed one of appendicitis for a number of years. He removed a small cyst from the right side. The woman recovered from the operation, but aborted in the fourth month. Conservatism should guide us in these cases in which fibroids complicate pregnancy.

Dr. F. D. Donoghue said that surgeons see so many end results of these cases following delivery, especially cases of sloughing fibroids with such a high mortality, that they are apt to be more radical in advising interference than the obstetrician, who only occasionally has a fatal case. Regarding the treatment of the cyst by puncture, in the last seven years

Dr. Donoghue has never punctured an ovarian cyst. Malignant disease of the peritoneum is not uncommon following the puncture of a cyst which may appear benign. The danger of the large incision is much less than the danger of dissemination papilloma of the ovary by puncture.

NERVOUS AND MENTAL MANIFESTATIONS OF PRE-PERNICIOUS ANEMIA.*

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Most practitioners of wide experience have probably been puzzled at times by a class of patients presenting an anomalous grouping of general and nervous symptoms, which have passed from one physician to another; perhaps labelled as "general debility" by one, "neurasthenia" by another, "crankiness" by a third, "hysteria" by others; cases which steadily progress toward a fatal termination in spite of supporting treatment, "rest cures" and optimistic prognoses.

Occasionally a residence for a more or less prolonged period in a well-equipped hospital, or an accidental falling into the hands of some young "up-to-date" village doctor, leads to a routine blood examination and the surprising discovery is made that the patient has "pernicious anemia."

During the past decade it has fallen to my lot to have under observation a number of such patients, whose chief complaints were of a distinctly mental and nervous character, and who in the course of time were found to present the characteristic blood state and somatic phenomena of pernicious anemia.

In some the nervous and mental departures were attributable to preceding or accompanying blood defect; in others, however, distinct evidence of organic nervous changes of degenerative type preceded the actual development of the pernicious feature of the anemia. These latter cases tend to raise again the questions, which have not by any means been satisfactorily answered:

1. Does the impaired enervation at times lead to morbid functioning in the blood-forming or blood-destroying organs?
2. Does the blood deterioration lead to the nervous phenomena?
3. Is there a common cause for the nervous symptoms and the blood deterioration?

It would seem to me probable that the last question will eventually be answered in the affirmative. In a few cases the opportunity has been offered to follow their development from so-called *"secondary anemia"* to an anemia of "pernicious" type as shown by the blood test.

SYMPTOMATOLOGY.

Analyzed clinically these cases collectively have seemed to present a rather characteristic syndrome, the occurrence of which may be of diagnostic and prognostic import.

In its full development, this syndrome may be characterized as follows, though individual cases may be incomplete as regards one or more symptoms, as would naturally be expected:

1. General ill health.
2. Mental symptoms, viz., loss of inhibition, peevishness and gradual mental deterioration, varied however, by control, patience, good temper, etc., for longer or shorter intervals.

Two of my cases, both women, presented this variability to a remarkable extent, the mental picture changing abruptly for better or worse within a few hours.

During the "better" periods some patients are almost "angelic" in disposition and conduct.

One patient had a distinct history of auditory hallucinations.

3. Sensory disturbances: (a) Subjective, consisting of intramuscular and articular pains. The former are never, in my experience, of "lightning" character as in tabes, but rather of the nature of "aches" or dull pains.

The articular pains are seldom accompanied by effusions and never by true inflammatory action, heat, redness, etc.

Other subjective sensory complaints which are perhaps more frequent than the above are sensations of numbness, tingling and weight in the extremities, usually more marked in the feet and legs. These symptoms, with the ataxia noted later, have occasionally led to an erroneous diagnosis of tabes, as in Case 1.

(b) Objective sensory disturbances: These are common and consist chiefly of losses of tactile and pain sensibility about the feet and ankles; "patchy" in distribution, *i. e.*, *not* segmental. Sometimes in the earlier stages only delay in transmission of sensation may be found. Tabes is excluded in these cases by the often exaggerated knee jerks and spastic gait, as well as by the absence of pupillary changes.

4. Plus knee jerks, ankle clonus and "Babinski sign" (extensor plantar reflex) are present in some cases.
5. Ataxia of gait and station is often present.
6. Diarrhea of the mucous type is apt to occur sooner or later.
7. The peculiar "lemon yellow" tint of pernicious anemia occurs in the advanced stages.

A combination of all or a majority of the above symptoms should suggest the possibility of an anemia of pernicious or prepernicious type and a careful blood examination may lead to a correct diagnosis and prognosis.

CASE 1.—Mrs. J. S. M. was seen Sept. 12, 1898. She complained of peculiar feelings in fingers and feet, with stiffness of legs, all of two years' duration.

History.—A diagnosis of locomotor ataxia had been made. This was negatived by the entire absence of either Argyl Robinson pupils or lightning pains and the presence of hyperactive knee jerks. The patient's father died of consumption, her mother was epileptic. The patient had been married sixteen years, but had never been pregnant. Syphilis, alcoholism lead and diabetes were excluded in the history. She had been sent south for lung disease in adolescence, with resulting recovery.

Examination.—Woman under average height; general nutrition apparently fair, distinctly anemic to the eye; pulse 96, small; no heart lesion. She was mentally logical, but apprehensive, and was emotionally depressed. There were no cranial nerve palsies or defects; no lightning pains; no defect of pain sense at ankles and feet.

Motor Powers: Patient can walk fairly well. Her gait is ataxic and slightly spastic. Legs "draw up" at night and knees are tightly flexed when she awakes.

Grasp: R. 45 kilos., L. 32 kilos., by Matthieu dynamometer (estimated at about 60 per cent. of normal). There was some ataxia of hand and arm movements.

Reflexes: Triceps was superactive and wrist jerks active. Knee jerks were present, slightly exaggerated.

Remarks.—A diagnosis of "probable combined sclerosis" of Putnam-Lichtheim-Dana type was made. Opportunity for blood examination was *not obtained*, as the patient was going away to a health resort, where she gradually lost strength in spite of careful supporting treatment, and died in about three months.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The physician, under whose care she was, writes me that he concurred in the diagnosis of "combined sclerosis," and that the reflexes toward the end were "practically entirely lost."

While the diagnosis of pernicious anemia in this case may justly be open to criticism, owing to the absence of blood examination, yet the clinical features, evident anemia, the steady deterioration in strength and the fatal issue in a little more than two years, together with the absence of other disease of lethal nature, would all seem to render the presence of the morbid blood state extremely probable.

Case 2.—This case has already been reported in The Journal, March 2, 1901. A brief abstract is as follows:

History.—A. W. C., male, aged 34, American, married, no children, hospital supervisor and restaurant proprietor by occupation, was under observation from July, 1899, to the fatal termination of his illness in April, 1900. There was a history of three or four years' gradual failure of health, preceding actual illness.

Examination.—Syphilis was excluded. His habits were good. He complained of weakness and rigidity in legs, and was unable to walk without assistance from others.

Sensory and Motor Symptoms: There were defects of tactile and pain senses about ankles, and delay and hypesthesia in both, without actual anesthesia. There was motor weakness with rigidity of legs and inability to walk. There was also inco-ordination in the upper and lower extremities.

Reflexes: Knee jerks were plus. Ankle clonus was present on both sides. Plantar reflexes were of the distinct "Babinski" type.

There was no notable mental defect until twenty-four hours before death, when coma appeared.

Mucous stools were a marked symptom during the last few weeks. Also epistaxis.

Blood Counts, July 8, 1899 (Dr. M. A. Brown): Reds, 1,279,440; whites, 3,600; hgn., 32 1/6 per cent.; color index, 1.3; poikilocytosis, marked; nucleated reds numerous; megaloblasts more numerous than normoblasts.

Second Count, Feb. 13, 1902 (at pathologic laboratory, City Hospital): Reds, 1,661,805; whites, 3,000; hgn., 54 per cent.; color index, 1.54; eosinophiles, 9 per cent.; neutrophiles, 49 per cent.; small lymphocytes, 39 per cent.; large lymphocytes, 3 per cent.; piokilocytosis was not marked; megaloblasts, three seen.

Subsequent examination showed no material change.

Autopsy.—Autopsy and microscopic investigation by Dr. Wolfstein showed the typical cord lesion of Putnam-Dana type of combined sclerosis.[1]

Case 3.—J. W. D., man, aged 34, single, active business man, was seen Jan. 7, 1898, in consultation with Dr. G. W. Wire of Wilmington, Ohio.

History.—He has complained of "tired feeling" for past two months. He had a crop of "dry boils" from waist to knees, about three months previous to this examination. Family history is good. There is no syphilis. Anemia was evident. Bilateral hydrothorax was present. There was no ataxia or rigidity of limbs present and no defect of tactile or pain senses was noted.

Reflexes: Knee jerks were lively. Ankle clonus was absent. Plantar reflex was not noted.

Blood Count (Dr. W. E. Schenck): Reds, 1,200,000 (4 counts); whites, 4,000; hgn., 35 per cent.

Subsequent History.—I am indebted for the subsequent history of the case to Dr. Wire, who writes me that the patient did fairly well for five or six months, then rapidly weakened, but was not absolutely confined to his home until seventeen days before his death on Nov. 26, 1898.

Death was due to cerebral hemorrhage, preceded by retinal hemorrhages, which abolished vision.

Case 4.—C. H. L., aged 57, business man and capitalist, married, four children, was seen April 18, 1903, in consultation with Dr. J. H. Landis.

History.—Family history was good. His habits were good. There was no syphilis and no previous illness of consequence. He complained of peculiar feelings in hands ("as of cornmeal on them") and in feet (as if resting on a sponge). The duration of these symptoms was six months.

Examination.—He had a large frame, full habit; height, 6 feet; weight, 212 pounds. He was moderately anemic to the eye. Heart sounds were not sharp. There were no urinary symptoms. Pupils responded to light, but somewhat sluggishly.

Motor Apparatus: There was no palsy; no inco-ordination. Power was reduced in grasp, i. e., R. 66 kilos., L. 60 kilos (normal estimated at about 90).

Re-examination twelve days later showed R. 75k., L. 60k. by same dynamometer.

Sensation: There were no losses of tactile or pain senses and no obvious delay in transmission.

Reflexes: Knee jerks were good and equal.

Blood examination (Dr. W. E. Schenck): Reds, 3,016,000; whites, 6,400; hgn., 60 per cent.; color index, 1 per cent.; differential count; polymorphonuclears, 80 per cent.; young, 16 per cent.; eosinophiles, 4 per cent.; the reds were irregular in snape and size. Diagnosis was secondary anemia (erythrocytemia).

Subsequent History.—Patient was put on iron, arsenic and supporting treatment and sent to the seashore, where he appeared to improve for a time. Growing worse later, the blood was re-examined and a diagnosis of pernicious anemia was made.

Blood Examination, March 2, 1904 (Dr W. E. Schenck): Reds, 1,000,000; whites, 4,360; hgn., 25 per cent.; color index, 1.5 differential count, whites, polymorphonuclears, 81 per cent.; small lymphocytes, 16; large lymphocytes, 3; poikilocytosis, chromatophilia, microcytes and macrocytes.

Diagnosis: Pernicious anemia.

At this time Dr. Landis informs me there was spastic gait, plus knee jerks, and "Babinski" plantar reflexes; also some diarrhea of mucous type and loss of control of rectal sphincter with retained power over bladder. There were no mental defects. The fatal termination occurred about one year from the time of his first visit.

Case 5.—A. H., financier and man of affairs, aged 67, very active, married, with several children living and healthy, was seen in June, 1902, in consultation with Dr. H. K. Dunham.

History.—His only complaints were of numbness and coldness in fingers (both hands), and pain in right shoulder. He called it rheumatism. His pulse was intermittent and arythmic and of low tension. The arteries were tortuous. There was no cardiac bruit, but the valve sounds were not sharp.

A diagnosis was made of neurasthenia and failing heart. Prolonged rest and retirement from active business advised.

Thirteen months later there were inco-ordination and weakness in legs, with some rigidity. There was lowering of the tactile sense in legs and ankles, but no anesthesia.

Eight months later there was marked lowering of tactile sensibility below the knees. Actual patches of anesthesia were present.

There was marked ataxia of gait and station, with loss of articular and posture sense in feet and toes, and eventual inability to walk alone.

Blood Examination.—A blood examination about this time revealed: Reds, 2,500,000; whites, 10,000; hgn., 55 per cent.; C. I., 1.1 per cent. A few days later the reds were 2,068,000; whites, 9,600; hgn., 54 per cent. Six nucleated reds in a leucocyte count of 500.

Remarks.—A diagnosis of probable pernicious anemia was made. The case terminated fatally about two years after the onset of the first symptoms.

Case 6.—For the notes of this case I am indebted to Dr A. L. Knight, the attending physician, who, although not consulted about the case until a few weeks before death, made a prompt and correct diagnosis.

Patient.—Mrs. F. S., widow, aged about 30, two children, had been in failing health for some months. There was no syphilis, but marked anemia with lemon yellow tint of skin. There was general weakness, but there were no mental defects and no sensory or reflex losses.

Blood Examination (Dr. W. E. Schenck): Reds, 1,509,320; whites, 4,200; hgn., 45 per cent.; color index, 1.5 per cent.

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[1] See The Journal, March 2, 1901.

Differential Count: Adult whites, 64 per cent.; young, small, 17 per cent.; young, large, 14 per cent.; transitional, 1 per cent.; old eosinophiles, 1 per cent.; unknown, 3 per cent.; reds, normoblasts, 1,500; megaloblasts, 102; microblasts, 33; poikilocytosis present.

Case 7.—Mrs. A. S. H. was referred to me by Dr. W. M. Seamans of Delaware, Ohio. She was under my care at the Cincinnati Sanitarium from Nov. 1, 1904, to the date of her death, Dec. 28, 1904.

For some of the notes of case I am indebted to my associates, Dr. B. A. Williams and Dr. C. B. Rogers.

Complaint.—Diarrhea and nervousness of three months' duration.

Patient.—A married woman, aged 62, who has never been pregnant. Her father died of "heart disease." Her mother is living and in good health at over 80 years of age. Patient is the second of three children. There is no nervous disease in direct family.

Previous History.—Patient was under treatment at a private institution for "mental disease" ten years ago. Recovery was followed by "nervousness and irritability for years."

Examination.—Nov. 1, 1904: General development is fair, good complexion and teeth. Patient is somewhat emaciated. Mentally she is cheerful and bright, with good memory, and is hopeful. These conditions present day of examination were quite in contrast with her dispositon at other times, which is not at all amiable.

Heart and urine were negative. There was no cranial nerve palsy and no contraction of visual fields to rough test. Pupils responded promptly to light and accommodation tests.

Motion: She can walk with some assistance from others; gait is stiff; her fingers are stiff and movements slow in consequence.

Sensation: Pain sense is blunted or lost about wrists and ankles (*to a pin prick*). There is tactile anesthesia of feet and legs nearly to knees. *Heat and cold senses are delayed*, but usually correct.

Reflexes: Knee jerks are absent. Plantar reflexes flexor, but very slight.

Blood Counts (*Dr. W. E. Schenck*), Nov. 8, 1904: Reds, 2,248,000; whites, 1,500; hgn., 30 per cent.; color index, 0.70

Differential Count: Leucocytes, polymorphonuclears, 83 per cent.; young, small, 10; young, large, 6, 16 per cent.; eosinophiles, 1 per cent.; poikilocytosis, macrocytes and microcytes.

A diagnosis of secondary anemia was made.

Second Count, Nov. 21, 1904: Reds, 1,456,000; whites, 5,000; hgn., 30 per cent.; color index, 1.07; poikilocytosis.

Differential Count: Polymorphonuclears, 57 per cent.; small lymphocytes, 42 per cent.; large lymphocytes, 1 per cent.

A diagnosis of pernicious anemia *was made.*

Third Count, Dec. 6, 1904: Reds, 1,004,000; whites, 2,400; hgn., 30 per cent.; color index, 1.5.

Differential Count: Polymorphonuclears, 65.5 per cent.; young, small, 33.5; young, large, 15, 34 per cent.; eosinophiles, .5; poikilocytosis, chromatophilia, macrocytes, microcytes.

A diagnosis of pernicious anemia was made.

Fourth Count, Dec. 20, 1904: Reds, 1,268,000; whites, 3,600; hgn., 30 per cent.; color index, 1.2.

Differential Count: Polymorphonuclears, 62 per cent.; young, small, 36. young, large, 2, 38 per cent.; poikilocystosis, chromatophilia, macrocytes, microcytes.

A diagnosis of pernicious anemia was made.

Termination by exhaustion five months after onset of symptoms.

Case 8.—Mrs. A. P. C. was referred to me by Dr. Sutton of Aurora, Ind. The patient was under the care of myself and associates at the Cincinnati Sanitarium from Jan. 19, 1905, till her death, on Feb. 1, 1905.

Patient.—A woman, aged 48, the youngest of several children, married, one son, 16 years old, one miscarriage at 46 years, lues probable, complains that she "feels cold all the time," has pain in left hip.

History (from others).—The patient has been mentally "peculiar" for two years, "heard voices" once (auditory hallucinations). She has threatened suicide. She has loss of control of sphincters at times and there is general weakness.

Examination.—She is evidently extremely anemic and has lemon yellow skin. She is conscious only when aroused; does not speak, but nods head. Pulse, 130; respiration from 35 to 40; temperature, 100. There were no chest râles. Pupils were pin points; sphincters unreliable; knee jerks were absent; plantar reflexes, right flexor, left absent; there were no responses to pin pricks in lower extremities.

Blood Examination (Dr. W. E. Schenck), Jan. 24, 1905: Reds, 2,272,000; whites, 2,400; hgn., 38 per cent.; color index, 86; macrocytes and microcytes.

Differential Count: Polymorphonuclears, 71 per cent.; small lymphocytes, 23 per cent.; large lymphocytes, 3 per cent.; eosinophiles, 1 per cent.; myelocytes, 2 per cent.; total, 100 per cent.

A diagnosis of severe secondary anemia was made.

Second Blood Examination, Feb. 1, 1905: Reds, 2,412,000; whites, 4,200; hgn., 35 per cent.; color index, 0.73.

Differential Count: Polymorphonuclears, 76.5 per cent.; lymphocytes, small, 21, large, 2.5. Normoblast, one.

A diagnosis of secondary anemia *was made.*

Remarks.—While this case does not technically come within the limits of a "pernicious" type of anemia, as shown by the blood tests, yet there can be little doubt of the presence of a lethal blood state to which the fatal termination was due.

Case 9.—R. M. J., broker, single, was originally referred to me in June, 1898, by Dr. G. M. Allen, on account of a hemiplegia.

History.—My diagnosis at the time was of cerebral thrombosis of gummatous origin. Recovery was nearly complete, after some months, with only slight exaggeration of reflexes in the paralyzed side. I saw him subsequently at intervals of months, up to 1905. During this period he suffered from several attacks of aphasia and monoplegia, three or more convulsive attacks, all clearing up within a few hours or days, and leaving a slight but persistent mental weakening.

He still continued to do a certain amount of routine business, and his mental deterioration was not marked to a casual observer. In the early part of 1905 he passed from my observation, for several months, and I was informed that he was taking some form of mānual treatment.

After this he was bed-ridden and comatose much of the time, and came under the care of Dr. Joseph Eichberg, who has kindly favored me with the following notes of the case while under his treatment:

"Blood examination of Mr. J.: Reds, 800,000; whites, 6,400; hgn., 20 per cent.; color index, 1.25 per cent.

There was marked poikilocytosis. One large megaloblast was found in several fields. The patient died within three and one-half weeks of the time that I first saw him."

Remarks.—The long duration (seven years) of nervous symptoms of varied type preceding the development of anemia is notable—not, however, because of any likely connection of the two, since the history pointed rather distinctly to gummatous arteritis as the cause of the organic nervous state.

DISCUSSION.

Dr. David I. Wolfstein, Cincinnati, declared that this attempt to establish a prepernicious anemia is going too far and is bound to lead us into trouble, especially as pernicious anemia is a disease that is well known and in which the blood examination is very definite. One can hardly see how disturbances of sensation and inco-ordination can be considered prepernicious anemia. In his desire to establish a separate entity, Dr. Langdon has included cases that would be classed as cases of subacute degeneration of the cord, which we class as pernicious anemia. There ought to be very little difficulty in diagnosing this condition with the laboratory aids now at our disposal. Prepernicious anemia is almost a contradiction in terms. There are a great many nervous states, it is true, that might be produced by various forms of anemia, but Dr. Wolfstein has never seen anything except very severe secondary anemia, or a simple pernicious anemia, unless there was some condition in the blood findings that would account for it, that would produce so well-marked a clinical picture as Dr. Langdon presents.

spite of careful supporting treatment, and died in about three months.

The physician, under whose care she was, writes me that he concurred in the diagnosis of "combined sclerosis," and that the reflexes toward the end were "practically entirely lost."

While the diagnosis of pernicious anemia in this case may justly be open to criticism, owing to the absence of blood examination, yet the clinical features, evident anemia, the steady deterioration in strength and the fatal issue in a little more than two years, together with the absence of other disease of lethal nature, would all seem to render the presence of the morbid blood state extremely probable.

Case 2.—This case has already been reported in The Journal, March 2, 1901. A brief abstract is as follows:

History.—A. W. C., male, aged 34, American, married, no children, hospital supervisor and restaurant proprietor by occupation, was under observation from July, 1899, to the fatal termination of his illness in April, 1900. There was a history of three or four years' gradual failure of health, preceding actual illness.

Examination.—Syphilis was excluded. His habits were good. He complained of weakness and rigidity in legs, and was unable to walk without assistance from others.

Sensory and Motor Symptoms: There were defects of tactile and pain senses about ankles, and delay and hypesthesia in both, without actual anesthesia. There was motor weakness with rigidity of legs and inability to walk. There was also inco-ordination in the upper and lower extremities.

Reflexes: Knee jerks were plus. Ankle clonus was present on both sides. Plantar reflexes were of the distinct "Babinski" type.

There was no notable mental defect until twenty-four hours before death, when coma appeared.

Mucous stools were a marked symptom during the last few weeks. Also epistaxis.

Blood Counts, July 8, 1899 (Dr. M. A. Brown): Reds, 1,279,440; whites, 3,600; hgn., 32 1/6 per cent.; color index, 1.3; poikilocytosis, marked; nucleated reds numerous; megaloblasts more numerous than normoblasts.

Second Count, Feb. 13, 1902 (at pathologic laboratory, City Hospital): Reds, 1,661,805; whites, 3,000; hgn., 54 per cent.; color index, 1.54; eosinophiles, 9 per cent.; neutrophiles, 49 per cent.; small lymphocytes, 39 per cent.; large lymphocytes, 3 per cent.; piokilocytosis was not marked; megaloblasts, three seen.

Subsequent examination showed no material change.

Autopsy.—Autopsy and microscopic investigation by Dr. Wolfstein showed the typical cord lesion of Putnam-Dana type of combined sclerosis.[1]

Case 3.—J. W. D., man, aged 34, single, active business man, was seen Jan. 7, 1898, in consultation with Dr. G. W. Wire of Wilmington, Ohio.

History.—He has complained of "tired feeling" for past two months. He had a crop of "dry boils" from waist to knees, about three months previous to this examination. Family history is good. There is no syphilis. Anemia was evident. Bilateral hydrothorax was present. There was no ataxia or rigidity of limbs present and no defect of tactile or pain senses was noted.

Reflexes: Knee jerks were lively. Ankle clonus was absent. Plantar reflex was not noted.

Blood Count (Dr. W. E. Schenck): Reds, 1,200,000 (4 counts); whites, 4,000; hgn., 35 per cent.

Subsequent History.—I am indebted for the subsequent history of the case to Dr. Wire, who writes me that the patient did fairly well for five or six months, then rapidly weakened, but was not absolutely confined to his home until seventeen days before his death on Nov. 26, 1898.

Death was due to cerebral hemorrhage, preceded by retinal hemorrhages, which abolished vision.

Case 4.—C. H. L., aged 57, business man and capitalist, married, four children, was seen April 18, 1903, in consultation with Dr. J. H. Landis.

History.—Family history was good. His habits were good. There was no syphilis and no previous illness of consequence. He complained of peculiar feelings in hands ("as of corn-meal on them") and in feet (as if resting on a sponge). The duration of these symptoms was six months.

Examination.—He had a large frame, full habit; height, 6 feet; weight, 212 pounds. He was moderately anemic to the eye. Heart sounds were not sharp. There were no urinary symptoms. Pupils responded to light, but somewhat sluggishly.

Motor Apparatus: There was no palsy; no inco-ordination. Power was reduced in grasp, i. e., R. 66 kilos., L. 60 kilos (normal estimated at about 90).

Re-examination twelve days later showed R. 75k., L. 60k. by same dynamometer.

Sensation: There were no losses of tactile or pain senses and no obvious delay in transmission.

Reflexes: Knee jerks were good and equal.

Blood examination (Dr. W. E. Schenck): Reds, 3,016,000; whites, 6,400; hgn., 60 per cent.; color index, 1 per cent.; differential count; polymorphonuclears, 80 per cent.; young, 16 per cent.; eosinophiles, 4 per cent.; the reds were irregular in snape and size. Diagnosis was secondary anemia (erythrocytemia).

Subsequent History.—Patient was put on iron, arsenic and supporting treatment and sent to the seashore, where he appeared to improve for a time. Growing worse later, the blood was re-examined and a diagnosis of pernicious anemia was made.

Blood Examination, March 2, 1904 (Dr W. E. Schenck): Reds, 1,000,000; whites, 4,360; hgn., 25 per cent.; color index, 1.5 differential count, whites, polymorphonuclears, 81 per cent.; small lymphocytes, 16; large lymphocytes, 3; poikilocytosis, chromatophilia, microcytes and macrocytes.

Diagnosis: Pernicious anemia.

At this time Dr. Landis informs me there was spastic gait, plus knee jerks, and "Babinski" plantar reflexes; also some diarrhea of mucous type and loss of control of rectal sphincter with retained power over bladder. There were no mental defects. The fatal termination occurred about one year from the time of his first visit.

Case 5.—A. H., financier and man of affairs, aged 67, very active, married, with several children living and healthy, was seen in June, 1902, in consultation with Dr. H. K. Dunham.

History.—His only complaints were of numbness and coldness in fingers (both hands), and pain in right shoulder. He called it rheumatism. His pulse was intermittent and arythmic and of low tension. The arteries were tortuous. There was no cardiac bruit, but the valve sounds were not sharp.

A diagnosis was made of neurasthenia and failing heart. Prolonged rest and retirement from active business advised.

Thirteen months later there were inco-ordination and weakness in legs, with some rigidity. There was lowering of the tactile sense in legs and ankles, but no anesthesia.

Eight months later there was marked lowering of tactile sensibility below the knees. Actual patches of anesthesia were present.

There was marked ataxia of gait and station, with loss of articular and posture sense in feet and toes, and eventual inability to walk alone.

Blood Examination.—A blood examination about this time revealed: Reds, 2;500,000; whites, 10,000; hgn., 55 per cent.; C. I., 1.1 per cent. A few days later the reds were 2.068,000; whites, 9,600; hgn., 54 per cent. Six nucleated reds in a leucocyte count of 500.

Remarks.—A diagnosis of probable pernicious anemia was made. The case terminated fatally about two years after the onset of the first symptoms.

Case 6.—For the notes of this case I am indebted to Dr A. L. Knight, the attending physician, who, although not consulted about the case until a few weeks before death, made a prompt and correct diagnosis.

Patient.—Mrs. F. S., widow, aged about 30, two children, had been in failing health for some months. There was no syphilis, but marked anemia with lemon yellow tint of skin. There was general weakness, but there were no mental defects and no sensory or reflex losses.

Blood Examination (Dr. W. E. Schenck): Reds, 1,509.320; whites, 4,200; hgn., 45 per cent.; color index, 1.5 per cent.

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[1] See The Journal, March 2, 1901.

Differential Count: Adult whites, 64 per cent.; young, small, 17 per cent.; young, large, 14 per cent.; transitional, 1 per cent.; old eosinophiles, 1 per cent.; unknown, 3 per cent.; reds, normoblasts, 1,500; megaloblasts, 102; microblasts, 33; poikilocytosis present.

Case 7.—Mrs. A. S. H. was referred to me by Dr. W. M. Seamans of Delaware, Ohio. She was under my care at the Cincinnati Sanitarium from Nov. 1, 1904, to the date of her death, Dec. 28, 1904.

For some of the notes of case I am indebted to my associates, Dr. B. A. Williams and Dr. C. B. Rogers.

Complaint.—Diarrhea and nervousness of three months' duration.

Patient.—A married woman, aged 62, who has never been pregnant. Her father died of "heart disease." Her mother is living and in good health at over 80 years of age. Patient is the second of three children. There is no nervous disease in direct family.

Previous History.—Patient was under treatment at a private institution for "mental disease" ten years ago. Recovery was followed by "nervousness and irritability for years."

Examination.—Nov. 1, 1904: General development is fair, good complexion and teeth. Patient is somewhat emaciated. Mentally she is cheerful and bright, with good memory, and is hopeful. These conditions present day of examination were quite in contrast with her dispositon at other times, which is not at all amiable.

Heart and urine were negative. There was no cranial nerve palsy and no contraction of visual fields to rough test. Pupils responded promptly to light and accommodation tests.

Motion: She can walk with some assistance from others; gait is stiff; her fingers are stiff and movements slow in consequence.

Sensation: Pain sense is blunted or lost about wrists and ankles (to a pin prick). There is tactile anesthesia of feet *and legs nearly to* knees. Heat and cold senses are delayed, but usually correct.

Reflexes: Knee jerks are absent. Plantar reflexes flexor, but very slight.

Blood Counts (Dr. W. E. Schenck), Nov. 8, 1904: Reds, 2,248,000; whites, 1,500; hgn., 30 per cent.; color index, 0.70

Differential Count: Leucocytes, polymorphonuclears, 83 per cent.; young, small, 10; young, large, 6, 16 per cent.; eosinophiles, 1 *per cent.; poikilocytosis,* macrocytes and microcytes.

A diagnosis of *secondary* anemia was made.

Second Count, Nov. 21, *1904: Reds, 1,456,000;* whites, 5.000; hgn., 30 *per cent.; color* index, 1.07; poikilocytosis.

Differential Count: Polymorphonuclears, 57 per cent.; small lymphocytes, 42 per cent.; large lymphocytes. 1 per cent.

A diagnosis *of* pernicious anemia was made.

Third Count, Dec. 6, 1904: Reds, 1,004,000; whites, 2,400; hgn., 30 per cent.; color index, 1.5.

Differential Count: Poly*morphonuclears, 65.5* per cent.; young, small, 33.5; young, large, 15, 34 per cent.; eosinophiles, .5: poikilocytosis, chromatophilia, *macrocytes*, microcytes.

A *diagnosis* of pernicious anemia *was made.*

Fourth Count, Dec. 20, 1904: Reds, 1,268,000; whites, 3,600: hgn., *30 per cent.*; color index, 1.2.

Differential *Count:* Polymorphonuclears, 62 per cent.; young, small, 36. *young, large, 2, 38 per cent.*; poikilocystosis, chromatophilia. macrocytes, microcytes.

A diagnosis of pernicious anemia was made.

Termination by exhaustion five months after *onset* of symptoms.

Case 8.—Mrs. A. P. C. was referred to me by Dr. Sutton of Aurora, Ind. The patient was under the care of myself and associates at the Cincinnati Sanitarium from Jan. 19, 1905, till her death, on Feb. 1, 1905.

Patient.—A woman, aged 48, the youngest of several children, married, one son, 16 years old, one miscarriage at 46 years, lues probable, complains that she "feels cold all the time," has pain in left hip.

History (from others).—*The* patient has been mentally "peculiar" for two years, "heard voices" once (auditory hallucinations). She has threatened suicide. She has loss of control of sphincters at times and there is general weakness.

Examination.—She is evidently extremely anemic and has lemon yellow skin. She is conscious only when aroused; does not speak, but nods head. Pulse, 130; respiration from 35 to 40; temperature, 100. There were no chest râles. Pupils were pin points; sphincters unreliable; knee jerks were absent; plantar reflexes, right flexor, left absent; there were no responses to pin pricks in lower extremities.

Blood Examination (Dr. W. E. Schenck), Jan. 24, 1905: Reds, 2,272,000; whites, 2,400; hgn., 38 per cent.; color index, 86; macrocytes and microcytes.

Differential Count: Polymorphonuclears, 71 per cent.; small lymphocytes, 23 per cent.; large lymphocytes, 3 per cent.; eosinophiles, 1 per cent.; myelocytes, 2 per cent.; total, 100 per cent.

A diagnosis of severe secondary anemia was made.

Second Blood Examination, Feb. 1, 1905: Reds, 2,412,000; whites, 4,200; hgn., 35 per cent.; color index, 0.73.

Differential Count: Polymorphonuclears, 76.5 per cent.; lymphocytes, small, 21, large, 2.5. Normoblast, *one.*

A diagnosis of secondary anemia was made.

Remarks.—While this case does not technically come within the limits of a "pernicious" type of anemia, as shown by the blood tests, yet there can be little doubt of the presence of a lethal blood state to which the fatal termination was due.

Case 9.—R. M. J., broker, single, was originally referred to me in June, 1898, by Dr. G. M. Allen, *on account* of a hemiplegia.

History.—My diagnosis at the *time* was *of cerebral thrombosis* of gummatous origin. Recovery was nearly complete, after some months, with only slight exaggeration of reflexes in the paralyzed side. I saw him subsequently at intervals of months, up to 1905. During this period he suffered from several attacks of aphasia and monoplegia, three *or more* convulsive attacks, all clearing up within a few hours or days, and leaving a slight but persistent *mental weakening.*

He still continued to do a certain amount of routine business, and his mental deterioration was *not* marked to a casual observer. In the early part of 1905 he passed from my observation, for several months, and I was informed that he was taking some form of mânual treatment.

After this he was bed-ridden and comatose much of the time, and came under the care of Dr. Joseph Eichberg, *who* has kindly favored me with the following notes of the case while under his treatment:

"Blood examination of Mr. J.: Reds, 800,000; whites, 6,400; hgn., 20 per cent.; color index, 1.25 per *cent.*

There was marked poikilocytosis. One large megaloblast was found in several fields. The patient died within three and one-half weeks of the time that I first saw him."

Remarks.—The long duration (seven years) of nervous symptoms of varied type preceding the development of anemia is notable—not, however, because of any likely connection of the two, since the history pointed rather distinctly to gummatous arteritis as the cause of the organic nervous state.

DISCUSSION.

Dr. David I. Wolfstein, Cincinnati, declared that this attempt to establish a prepernicious anemia is *going too far and* is bound to lead us into trouble, especially as pernicious anemia is a disease that is well known and in which the blood examination is very *definite. One* can hardly *see how* disturbances of sensation and inco-ordination can be considered prepernicious anemia. In his *desire to establish* a separate entity, Dr. Langdon has included cases that would be classed as cases of subacute degeneration of the cord, which we class as pernicious anemia. There ought to be very little difficulty *in* diagnosing this *condition* with the laboratory aids now at our disposal. Prepernicious anemia is almost a contradiction in terms. There are a great many *nervous* states, it is true, that might be *produced* by various forms of anemia, but Dr. Wolfstein has never seen anything except very *severe* secondary anemia, or a simple pernicious *anemia*, unless there was some condition in the *blood* findings that would account for it, that would produce so well-marked a clinical picture as Dr. Langdon presents.

Dr. H. A. Tomlinson, St. Peter, Minn., said that behind the anemia there is the instability of the individual. In these cases we are probably dealing with a secondary anemia, having its origin in chronic autointoxication; in other words, an intoxication anemia. A careful study of these cases clinically will show that behind the autointoxication there is faulty elimination. After correction of the faulty elimination, and under improved nutrition, the anemia disappears. In the majority of cases of chronic nephritis, in which there is marked sensory and often motor disturbance, there is secondary anemia, and all the manifestations described by Dr. Langdon. Dr. Tomlinson agreed with Dr. Wolfstein that there is no ground for grouping these manifestations into a special classification, because they may result from a number of disease conditions. We have no right to ascribe to the anemia the power to cause the nervous disturbance.

THE TUBERCULOSIS PROBLEM IN LOS ANGELES.*

GEORGE H. KRESS, M.D.
LOS ANGELES, CAL.

The mortality statistics for pulmonary tuberculosis for the city of Los Angeles, when analyzed, suggest some rather interesting questions, not only for the physicians and citizens of Los Angeles, but for our professional brethren east of the Rocky Mountains, since it is these latter gentlemen who are largely responsible for the fact that Los Angeles has a tuberculosis problem. It is the purpose of this paper to consider various phases of these statistics, to draw some conclusions therefrom and to suggest some measures whereby such danger as exists for the public health from an unusually high mortality rate from pulmonary tuberculosis may be minimized or entirely prevented.

In order that the task may be accomplished with some degree of completeness, most of the etiologic factors that are known to influence the morbidity and mortality rates of the great white plague will be considered in turn.

FACTORS INFLUENCING MORBIDITY AND MORTALITY RATES.

Climate.—We who live in this country and know its many advantages, need not be told that the pure air coming from ocean and desert, the good soil drainage, the great amount of sunshine, the temperature which, while pleasant and equable, varies sufficiently during the day and night to be anything but enervating, are atmospheric and topographical conditions not favorable to either the development or the spread of consumption under ordinary conditions.

So far as the value of our climate may be called into question as regards the treatment of tuberculosis, we have but to remember that, in a general way, there is no such thing as a specific climate for the cure of tuberculosis; that it is the manner, rather than the place of, treatment that is of first importance; that the disease has been cured, in fact, in climates of widely different characteristics, and that the Southern California climate, in allowing an out-of-door life the year round, in a pure atmosphere, with an abundance of sunshine, possesses advantages excelled by but few localities. So that what may be said later concerning a large mortality rate from tuberculosis in Los Angeles exists not because of, but rather in spite of, a climate, which with proper cases, under suitable conditions, would and does exercise a potent influence in the cure of many, many patients.

Sociologic and Industrial Conditions.—Our northern friends and some few others at various times, in prognosticating the industrial growth of our prosperous city, have been in the habit of saying, "Los Angeles has nothing and exists on nothing else than its climate and its tourists." Taken literally, such an assertion is, of course, a great exaggeration, but there is this kernel of truth within it, that Los Angeles has, for a city of its size, not nearly the number of manufacturing interests that are found in many eastern municipalities of the same population.

With this apology for the use of dry figures, the ordinary causal factors of consumption will be considered in turn.

STATISTICS.

The statistics here given have been taken largely from the last United States Census reports and from the death certificates on file in the City Health Office. While allowance must be made for slight errors, since all the items on the death certificates are not invariably filled in by physicians, they are, in the main, correct. The registration area of the United States contains about 40 per cent. of the population of the country, and, as it has much more accurate methods of keeping vital statistics, its figures are, therefore, taken in preference to those for the United States as a whole.

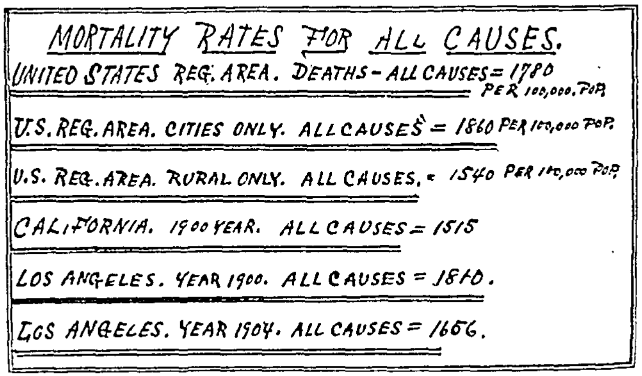

Diagram 1.—Showing the mortality rates, from all causes, for the United States and Los Angeles. It will be seen that in spite of having the second highest tuberculosis mortality rate in the United States, the mortality rate for Los Angeles, from all causes, is below that of the average registration cities of the United States.

The following figures show the annual economic loss to the United States from preventable deaths from pulmonary tuberculosis: Annual total number of deaths in the United States from consumption, 150,000; in California, over 4,000; in Los Angeles, over 600. Average age of patient at time of death, 35 years. From one-third to one-half of all deaths between the ages of 15 and 35 are due to tuberculosis.

Average years of after-life expected by man of 35, about 32 years; cost of rearing child to age of 20, at $100 a year for 25,000 persons, $50,000,000; same for 60,000 other persons who die between ages of 20 and 35, $90,000,000; diminished earning power of $150 each for 200,000 sick consumptives, $30,000,000; loss of future savings at $1,000 each of those who die between the ages of 20 and 60, $130,000,000; annual expense of sickness of 150,000 persons, at $50 each, $7,500,000; extra expense of caring for families of 75,000 married consumptives at $25, $1,875,000; grand total in monetary loss to the United States, $309,875,000 annually.

No estimate in dollars and cents is placed on the mental and physical suffering of the patients or their families.

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* Read before the Los Angeles County Medical Association June 2, 1905.

These estimates, if anything, err on the side of conservatism. Counting the cost of rearing a child, the loss in diminished wage earnings during sickness, the loss through premature death, the expense of sickness and expense of caring for dependents of deceased consumptives, there is a loss to the United States, on a conservative basis, of more than 300 millions of dollars annually.

All this loss annually from a preventable disease!

The accompanying charts, diagrams and tables have been made to bring out more clearly such etiologic factors as have a bearing on the subject under discussion.

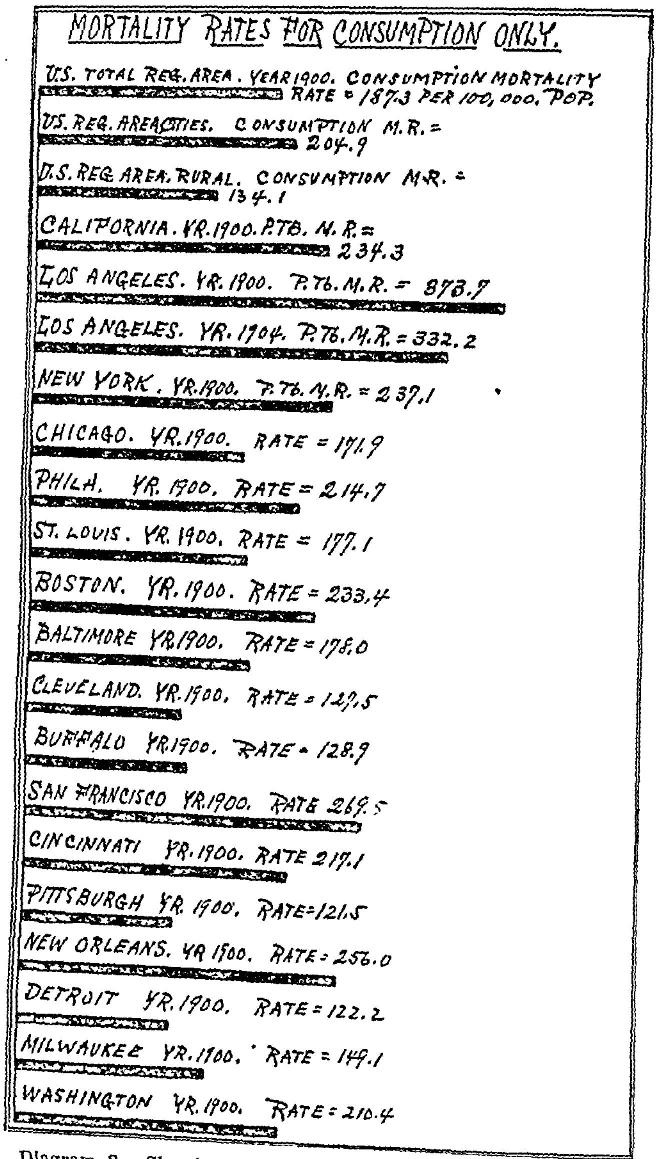


Diagram 2.—Showing the mortality rates for consumption only (a larger unit of measurement being here used than in the preceding table, to bring out the differences more clearly). The first horizontal black line shows the average of the registration area of the United States. The Los Angeles line, the longest given, is almost twice as great as that for the United States registration area average. Below the Los Angeles lines are given in order the tuberculosis mortality rates and lines for the fifteen largest cities in the country. The Los Angeles rate is larger than that of any of these large cities, where local conditions would lead one to expect high death rates from consumption.

CONCLUSIONS TO BE DRAWN FROM THESE STATISTICS.

To summarize, it is noted that Los Angeles has a climate and topographical environment which, under proper hygienic and sanitary living, is inimical to the development of pulmonary tuberculosis among its inhabitants. The general industrial, sanitary and sociologic conditions of the city are likewise unfavorable to the spread of the disease. Yet, in spite of this, Los Angeles, in the census year 1900, had the second highest mortality rate from pulmonary tuberculosis in the United States.

If the rate has diminished somewhat during the last five years, it may be said with equal truth that the mortality rates of other cities have likewise diminished, especially in the large cities where the campaign for better housing and sanitation for the poor has been vigorously carried on. New York, with its new tenement house laws and park systems, is a case in point.

The consideration of the tuberculosis mortality rate of Los Angeles in relation to such factors as race, sex, age, conjugal condition, season of the year, and so on, brought out no particularly unusual points, other than that the ordinary variations of the United States registration area were somewhat intensified. Most of the variations could be traced to that one feature which is especially responsible for our high death rate, viz., the fact that southern California is known to possess a climate favorable to the cure of tuberculosis, as a result of which knowledge people flock to this region from all parts of the country, too often, however, in such advanced stages of the disease that recovery is quite out of the question. Consequently, the Los Angeles death rate from tuberculosis assumes most undue proportions.

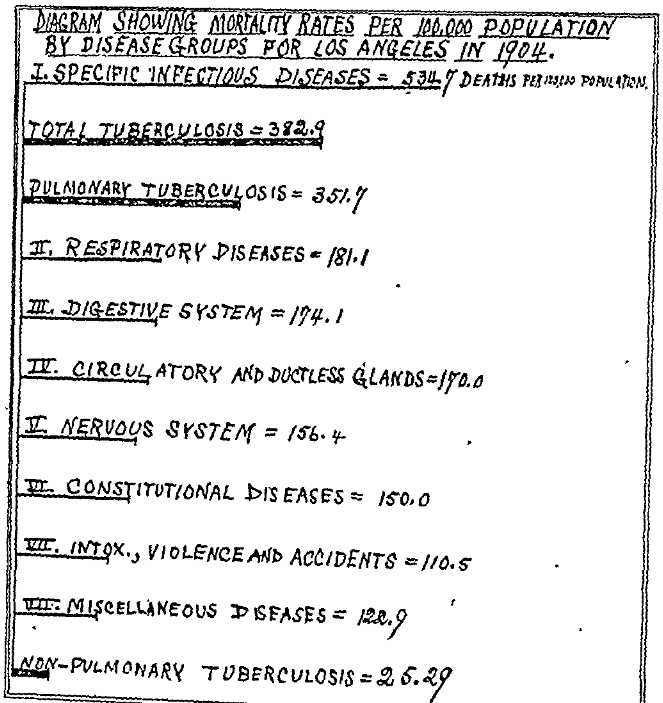


Diagram 3.—Showing the mortality rates, for Los Angeles, of diseases by the health office groups, except that the tuberculosis mortality is added for sake of contrast. The large portion of the line for specific infectious diseases which the tuberculosis line would cover and the much greater mortality from this single disease than for the entire groups of diseases, are both worthy of notice.

There are naturally more deaths among the males, because a larger number of that sex can come here unattended. The large number of deaths among adults is likewise due to the same reason. As yet the comparatively few deaths which occur among the native population of Los Angeles from consumption take place, many of them among the Mexicans and others who live in the poorest circumstances under the worst hygienic conditions.

The table showing the term of residence prior to death is one of the most significant given. From it is noted beyond any question of argument that from one-third to one-half of those who die of consumption in this city, and who came here in the hope of regaining health and strength, are hopelessly diseased with tuberculosis. For such persons, many of whom die within a few months after their arrival in southern California, death at home, with the tender ministrations of relatives and friends, would be preferable to the hopeless outlook presented here. Forced by the lack of material means to seek lodging in the cheapest rooming houses, unable to purchase nourishing food, without which even the best climate on earth is of but little avail; forced, when their material means are not so limited to conceal the nature of their malady from the keeper of the rooming house, lest they be requested to go elsewhere for lodging; eating in the public restaurants, among the better class of which even, the cleansing of dishes is not any too well performed, and where among the cheapest this work is decidedly neglected, the lot of these hopelessly advanced victims of consumption is, indeed, hard. Their sufferings terminate somewhat when, bedridden, they are admitted to the County Hospital, where, even though the white-capped nurses be strangers, they may spend a few hours of peace before death.

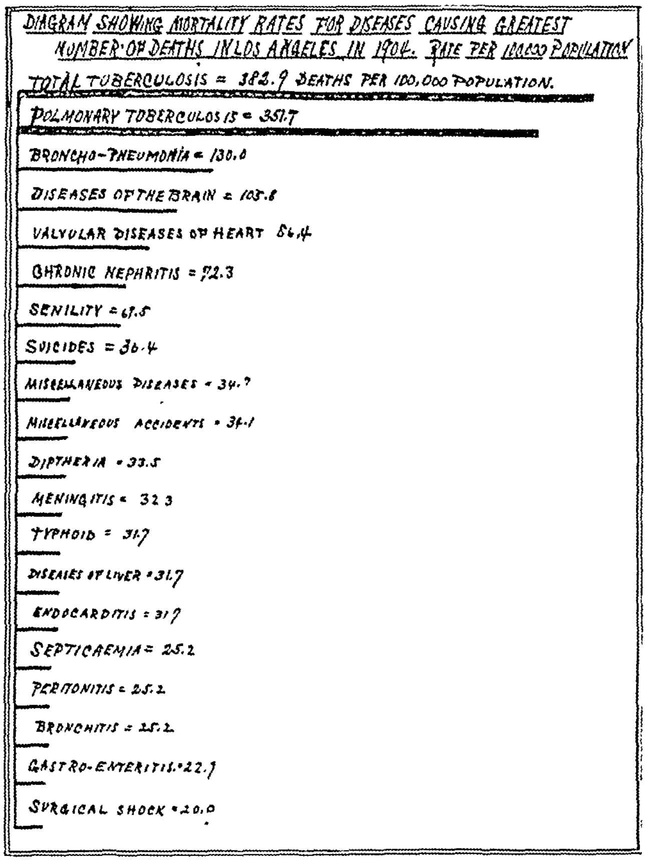


Diagram 4.—Showing how the Los Angeles death rate from consumption outclasses the other main causes of death in that city.

The following is the tuberculosis mortality on different Los Angeles streets: Hope, 10; Fourth, Hill and Pico, 9 each; Main, 8; First and Twenty-second, 7 each; Alameda, Seventh and Twenty-sixth, 6 each; Aliso, Fifth, Figueroa, Los Angeles, St. Julian and Twelfth, 5 each; Avenue Sixth, 4; Boyle, Castelar, Eighth, Grand, Girard, Maple, Soto, Spring, Third, Twenty-first, Twenty-eighth, Vermont and Wall, 4 each; Avenue Five, 4; Buena Vista, Central, Elizabeth, Fifteenth, Flower, Marchessault, Pasadena, Ruth, San Fernando, Santa Fe, Sickle, Sixth, Temple, Tennessee, Twenty-third and Twenty-fifth, 3 each, and so on; County Hospital, 118; coroner, 34.

One hundred and eighteen deaths from consumption in the Los Angeles County Hospital last year! Thirty-four deaths in rooms and lodging houses, without a physician in attendance, so that a coroner's inquest was necessary! The Associated Charities yearly provide transportation to an additional hundred or so of consumptive persons to enable them to return to their homes because they are unable to keep up the struggle here.

If so many patients die as charity patients in our public hospital, can there be any doubt but that, prior to their admission to that charity institution, they must have lived in the cheapest of lodging or rooming houses? Would it not be a safe assumption to state that 25 per cent. of the mortality from this dread disease—which is responsible for more than one-fifth of the entire mortality of this city—and about 50 per cent. of the morbidity from consumption is to be found in the lodging and rooming houses of Los Angeles; in brief, that 25 per cent. of the deaths and 50 per cent. of the tuberculosis morbidity (whatever this latter figure may be; under our present laws we have no means of finding this out) is to be found in those dwellings which harbor about only 30 per cent. of our population? More than that, owing on the one hand to the prejudice among proprietors of good dwelling houses to accept such persons as tenants or lodgers, and, on the other, to the poverty-stricken condition of a large number of these patients, it is reasonable to assume that the proportion of consumptives to the poorer lodging houses is much larger than this. If this be true, it means that in the places where the largest number of poverty-stricken, poorly nourished and depressed men are to be found; in the buildings where the amount of cubic air space is least; where ventilation is prevented to keep up body heat and to avoid draughts; in the dwellings where the bed clothing is filthiest, where bath tubs and lavatories are the fewest and then of the crudest pattern; in short, where bad hygiene, worse sanitation, and the largest number of predisposed persons are congregated in the smallest space (precisely those conditions most potent in the spread of this disease), we find the largest number of consumptives, and not only that, but the largest number of consumptives in advanced stages of the dis-

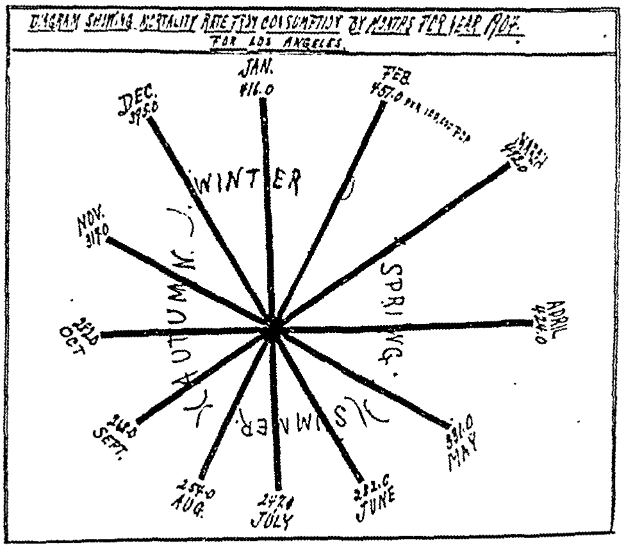


Diagram 5.—Presenting the mortality rates by months, as given in Table 6, in the form of a diagram.

ease, that stage in which millions of bacilli are cast off by each patient in his sputum of a single day.

On what premises and by what process of reasoning are we warranted in concluding that, under such lodging-house conditions, tuberculosis does not endanger the public health of our city? When a firebrand is thrown into an inflammable structure, the result that is expected is a conflagration. When foci of infection are scattered in places where predisposed persons can most easily acquire the disease, one expects new cases of the disease to arise. The spread of the disease may be confined for a time to such places, but it does not take long before some of these diseased persons repay their debt to a criminally neglected community by infecting inhabitants in better portions of the city.

By what right does any municipality endanger the County Medical Association, which is a component unit of the Americal Medical Association, and which is supposed to take an active participation in all efforts to promote the public health, excuse itself for its dereliction of duty?

Is it right that we as physicians should allow this work to be done almost entirely by a half-dozen men, the members of the Board of Health, and more especially by our health officer? Our politicians will not undertake this work, because it conflicts with vested interests that at once make themselves heard when reform is attempted; but let other vested interests, viz., those representing the great mass of our citizens, who stand for decent sanitation and hygiene, be heard with equal force, and our politicians will not turn an unwilling ear.

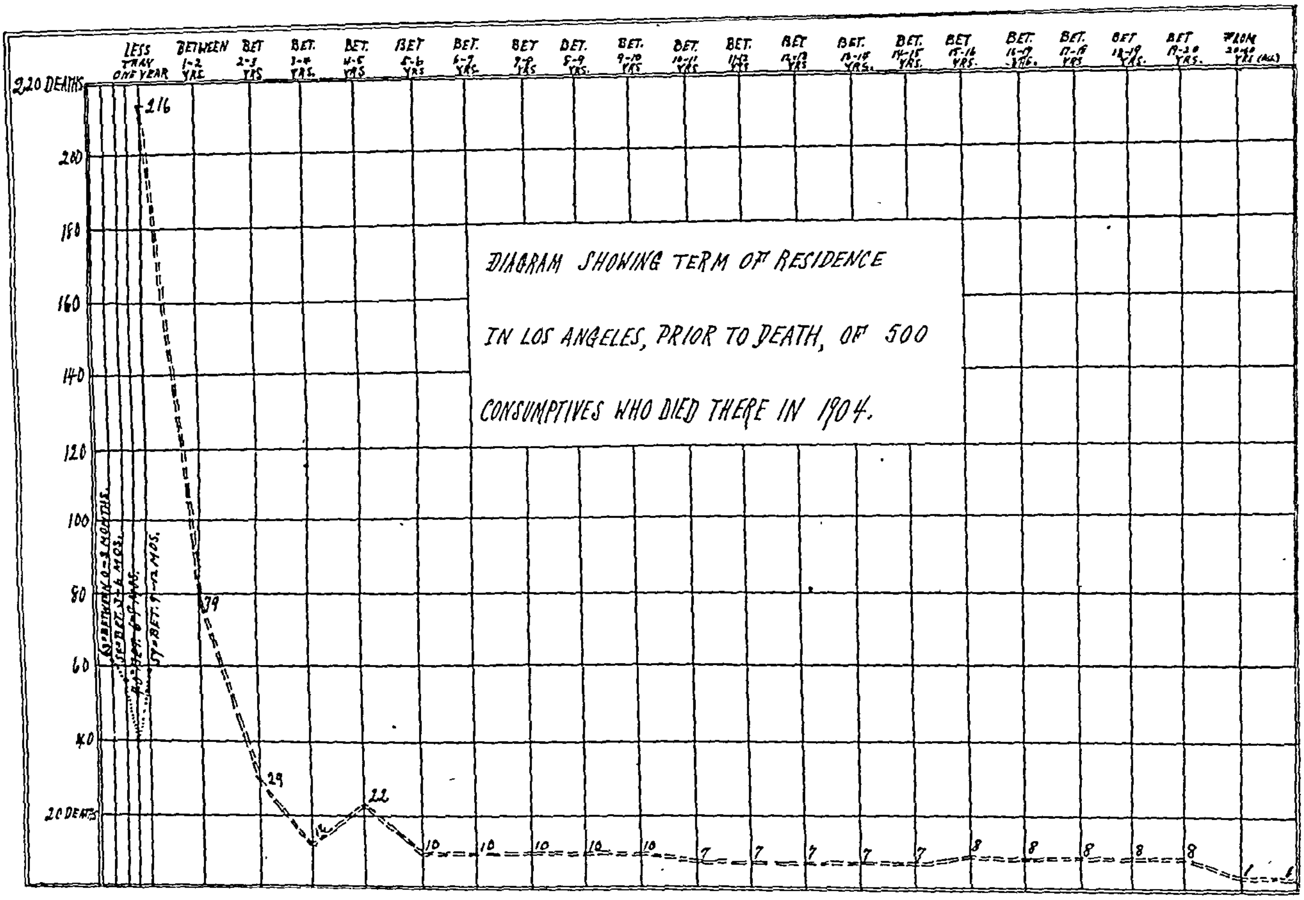


Diagram 6.—This diagram shows the length of residence in Los Angeles prior to death of 500 consumptives who died here in 1904. The high proportion of deaths for the four seasons of the first year is worthy of notice, also the height of the curve for the first year. It then drops rapidly, until about the fifth year, when it runs along at a very low figure. This means two things: One, that a large proportion of patients come here in hopelessly advanced stages of the disease; and two, that after two or three years' residence, the other patients have a fairly good chance for lengthened years of life.

life of its healthy inhabitants, especially when this danger to others comes from the violation of the most fundamental laws of decent and hygienic living? What does Los Angeles intend to do in this matter? Shall it close its eyes and allow the next census to publish the same unfavorable mortality rate from consumption? How long will it be, whether justly or unjustly, before it becomes noised abroad throughout the country that our tuberculosis mortality is so excessive as to be a danger to healthy persons?

Los Angeles can account for her tuberculosis death rate without shame to herself. The fault lies much more at the door of those eastern physicians who send hopelessly advanced patients to this community than at the doors of the local physicians. In what manner do we as physicians, and how does this Los Angeles

THE SOLUTION OF THE LOS ANGELES TUBERCULOSIS PROBLEM.

The solution of the tuberculosis problem in Los Angeles, while not a complicated one, has ramifications in many directions. It may be worth while to consider the more important of these in some detail.

Compulsory Notification.—Under the present health rules and regulations, our health officer has but little control over the tuberculosis situation, because he is denied the power to execute. This is so serious a problem that the health officer of this community should not only have mortality statistics bearing on tuberculosis, but also should know how much morbidity there is from that disease, and in what parts of the city it is located, so that intelligent action may be taken.

In New York City every physician is obliged to report every case of tuberculosis with which he comes in contact. This information is sent to the health department on a blank devised for that purpose, in which the physician not only gives the name and address of the patient, but states his opinion of the hygienic condition of the patient's surroundings. The patient is supplied with literature informing him how to avoid reinfection of himself (a most important point, in that it leads the patient to observe safeguards for others as well), and how to avoid infecting others, a precaution he is sometimes loth to take until the danger to self is first emphasized. This notification information is for the use of the health department only, i. e., the book is open to the inspection of health department officials only. When charity patients are reported, or when the attending physician states that hygienic conditions are bad, a physician or deputy from the health department investigates and gives needed information and assistance for the betterment of the conditions. From time to time inspections are made to see if these measures are complied with. When these measures are ignorantly or willfully but persistently neglected, the health officer has the power to transfer such a patient from his unhygienic surroundings to the tuberculosis hospital on North Brothers Island.

Los Angeles needs just such a law, only, unfortunately, the health officer in this state has no authority forcibly to send a patient to a hospital.

MORTALITY TABLES BY RACE

RACE	UNITED STATES					LOS ANGELES				
	POPULATION U.S REG. AREA	DEATHS. ALL CAUSES		DEATHS. CONSUMPTION		POPULATION LOS ANGELES (ESTIMATED)	DEATHS. ALL CAUSES		DEATHS CONSUMPTION	
		NUMBER	RATE	NUMBER	RATE		NUMBER	RATE	NUMBER	RATE
WHITE	28,555,810	475,640	1,729.0	47,041.	174.0	196,184	2,847	1,450	578	297.0
TOTAL COLORED	1,251,467	31,125	2,927.0	6,063.	487.0	8,784	134	1,520	40	457.0
NEGRO						4,000	88	2,200	26.	650.0
CHINESE						3,500	46	1,150	10	400.0
JAPANESE									4	216.0

Table 1.—This table shows how much higher is the death rate for the colored races than for the white. The negroes, Chinese and Japanese of Los Angeles have not quite so high a death rate from this disease as their colored brethren of the United States, as a whole.

As is known, tuberculosis has been listed by our local board of health among notifiable diseases. How this voluntary notification has worked out in practice is seen from the health officer's last annual report, where, with 651 deaths from tuberculosis, only 206 cases of tuberculosis were reported, and, although the health department makes free sputum examinations, only 434 specimens were sent in, and of these only 167 specimens gave positive results.

Knowing the opposition of patients and their families to having their cases reported, is it any wonder that physicians avoid much trouble by not reporting them? The solution of this phase of the question lies not in voluntary, but in compulsory notification, and that, as stated, can best be followed out after the Biggs plan of New York, the information being for the health department's use only, no placard being placed on the house; the sole purpose of the arrangement being to protect the patient and his fellow-men, but at the same time to inconvenience both as little as possible.

Such a law Los Angeles should have. Such a law Los Angeles some day will have. Just how long the wait is to be will depend, in good part, on the attitude the medical men of the community take on this question. It is to be hoped that those who would be tempted to oppose compulsory notification will accept the change of heart of New York medical men who at first opposed the Biggs system, as an indication of how experience would cause them to change their own opinion. Compulsory notification of cases would also perform this further excellent service to the anti-tuberculosis cause, in that it would overcome the prejudice of the laity to tuberculosis as a cause of death, so that the true number of those who die from this disease could be more accurately determined. At present, large allowances must be made for error in mortality statistics in this disease. Ultimately also, by necessitating a recorded diagnosis during life, it would be a valuable influence in leading medical men to make earlier diagnoses, i. e., diagnoses in the curable stages.

Compulsory Fumigation.—The health officer of Los Angeles, when a death certificate comes in marked pulmonary tuberculosis, sends out a deputy to fumigate the premises where the individual died, but the fumigator can do nothing, if the owner or lessee of the building forbids him to enter. This deputy has told me of the different ways in which he is met by the families or friends of the deceased, and has stated that in a number of cases he is denied admission. Los Angeles needs a statute that will make it compulsory to have rooms fumigated after the removal or death of a consumptive patient. The work should be carried on, of course, with as much privacy as possible. The benefit of fumigation would not be helped by undue publicity of the work, with its subsequent gossip of neighbors and the corresponding distress of the family.

MORTALITY RATES BY NATIONS. MORTALITY NUMBERS BY STATES

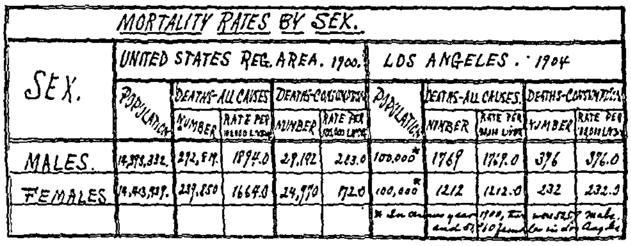
NATIONALITY	MORTALITY RATES PER 100,000 POP. U.S. REG. AREA.	MORTALITY RATES PER 100,000 POP LOS ANGELES.	WHERE NATIVE AMERICANS AMONG DECEASED CONSUMPTIVES CAME FROM. LOS ANGELES	
TOTAL COLORED	589.4	457.0	LOS ANGELES = 13	
IRISH	428.0	240.0	CALIFORNIA = 59	
BOHEMIANS	235.2	—	ILLINOIS = 45	
SCANDINAVIANS	233.7	390.0	NEW YORK = 27	
FRENCH	220.6	160.0	MISSOURI = 27	
GERMANY	205.9	230.0	OHIO = 25	
CANADA	199.7	370.0	PENNSYLVANIA = 24	
UNITED STATES	162.5	270.0	INDIANA = 19	
ENGLAND	151.4	202.0	MICHIGAN = 15	
ITALIANS	149.9	80.0	IOWA = 15	
RUSSIANS	131.1	650.0	TEXAS = 12	
MEXICANS		770.0	TENNESSEE = 11	
CHINESE		400.0	KENTUCKY = 11	
JAPANESE		266.0	MASSACHUSETTS = 11	

Table 2.—This gives in the three left-hand columns the mortality rates by nations, for the United States as a whole and for Los Angeles alone. In the United States registration area the Irish, next to the colored persons, have the highest death rate from consumption. In the column for Los Angeles the mortality rate of the Mexicans is especially worthy of notice. A considerable proportion of the native-born population of Los Angeles who die of pulmonary tuberculosis are of Mexican parentage. In the two right-hand columns may be seen from what states the native-born Americans who died here last year from consumption, came. Los Angeles had only thirteen deaths among her native born, and the Californians in all numbered only 59. Illinois sent us 45 consumptives, New York 27, Missouri 27, Ohio 25, and so on.

A statute should also be passed to prevent the furnishings of the room from being sold to second-hand dealers until after they had been fumigated.

Ordinances to Place Lodging House Licenses on the Same Basis as Dairy Licenses.—In his last annual report the health officer of Los Angeles stated: "We recommend that an ordinance be passed requiring all proprietors of lodging houses to secure a permit to conduct a rooming house, and that any proprietor who fails to furnish clean bed clothing, etc., be refused a permit, and in case he fails to keep or to maintain a clean and sanitary place his permit be suspended." What action has been taken in this matter? The health officer is the executive officer of the Board of Health. Is it right to thrust on him in addition the legislative functions? Is it not the duty of physicians, yes, of a committee of the Los Angeles County Medical Association, to take this matter in hand and make this suggestion of the health officer a reality? Such an ordinance should have provisions as to the amount of air space to each occupant of a room; should provide for an adequate amount of ventilation; should insist on clean bed clothing and furniture; should demand accessible bath and wash rooms and lavatories. Proprietors of places violating the requirements, and who, on notice to clean up, fail to do so, should be punished by withdrawal of license, just as a milk license is withdrawn from a dairyman for an analogous offense.

What objection can there be to such a law? If it be inconsistent for a physician or for a body of physicians to oppose fundamental provisions of cleanliness and sanitation, is it not equally inconsistent, in view of the high nature of their calling and better knowledge of these subjects, for them to make no effort to bring about the adoption of necessary hygienic and sanitary measures?



MORTALITY RATES BY SEX.

SEX.	UNITED STATES REG. AREA. 1900.					LOS ANGELES. 1904				
	POPULATION	DEATHS-ALL CAUSES		DEATHS-CONSUMPTION		POPULATION	DEATHS-ALL CAUSES.		DEATHS-CONSUMPTION	
		NUMBER	RATE PER 100,000 LIVING	NUMBER	RATE PER 100,000 LIVING		NUMBER	RATE PER 100,000 LIVING	NUMBER	RATE PER 100,000 LIVING
MALES.	14,393,332.	272,617.	1894.0	29,192	203.0	100,000*	1769	1769.0	376	376.0
FEMALES	14,413,939.	239,850	1664.0	24,770	172.0	100,000*	1212	1212.0	232	232.0
						* In [illegible]	year [illegible] and [illegible]	1900, [illegible] 10 [illegible]	[illegible]	male, [illegible]

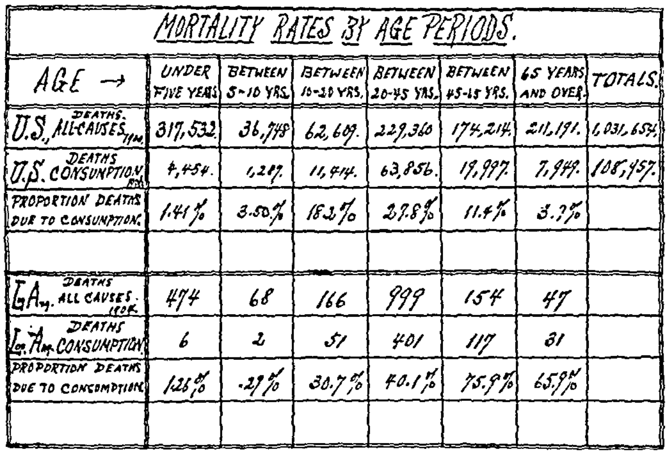
Table 3.—This table shows that while for the United States registration area the deaths among males are to the consumptive deaths among females, as 8 to 7; for Los Angeles this ratio is about 15 males to 9 females.

Building Regulations.—We can all become indignant over the cheapest lodging houses, forgetting that, because of this very cheapness, they offer a roof to sleep under and a space to lie on for those unfortunate members of our community who have no means to turn to something better. Some of these shacks have existed for years.

To extirpate an established evil is always difficult. What is being done to prevent the erection of like places? The new building ordinance (No. 10,415, New Series) went into effect on Dec. 31, 1904, and its forty-two articles extend over more than three and one-half full pages of the *Los Angeles Times* of Jan. 9, 1905. Therein are specifications as to material and mode of construction for private and public buildings of all conceivable descriptions; fire-escape and plumbing requirements are all pointed out, but nowhere is mention made of the amount of air space per occupant nor the amount of ventilation required.

The new building ordinance deals almost entirely with material specifications. This is in keeping with this very material age. We do not know who composed the committee that drew up the specifications, but it would seem that that committee should have had among its members at least one medical man who had given thought to building and other requirements. Such a medical man might have come to the aid of the building inspector when he sought to have a rule passed whereby the number of buildings of frame construction would be limited for certain size lots. Under the present ordinance, a single frame building may not contain more than a stipulated number of rooms or apartments. Nothing is said about the size of the lot. Hungry land and property owners violate the spirit of the ordinance by erecting buildings, each with the maximum number of rooms, a foot or so apart from one another, just enough space to enable them to state that the buildings are separate. The narrow areas between them are excellent flues, and the buildings make splendid fire traps. Where was our medical society when these laws were being adopted? It was conspicuous by its absence, as has been said, or it might have been of aid to our building inspector in having his much-needed regulations adopted.

Building requirements on the subject of air space per occupant, ventilation, lavatory arrangements, plumbing and the like need not necessarily stop with our cheaper lodging houses. Without entering into a discussion as to the probable effect on future generations, of our present-day flat life, we may well ask ourselves what kind of physical beings these compartment buildings in time will produce, and whether children born and reared in such structures, where the ingenuity of man is bent on seeing how he can transform the dwelling house of a generation ago into one or two small rooms, and these, in turn, perhaps into living closets no larger than those used by our grandmothers in storing clothes, will be of a high physical standard? In any case the duty of the present generation is to demand that an adequate supply of oxygen and sunlight be allowed to reach the interior of all classes of dwellings. The thickly carpeted, stuffy, ill-ventilated apartment house or hotel can at times be as much of a disease breeder as the poor hovel or miserable tenement, where such of our fellows as have fallen behind in the life race are of necessity forced to make their homes. If the principle of good ventilation be applicable for the tenement, it should be made applicable to the apartment house and hotel also.

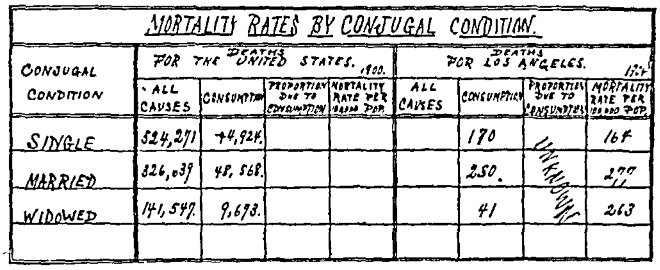


MORTALITY RATES BY AGE PERIODS.

AGE →	UNDER FIVE YEARS	BETWEEN 5-10 YRS.	BETWEEN 10-20 YRS.	BETWEEN 20-45 YRS.	BETWEEN 45-65 YRS.	65 YEARS AND OVER.	TOTALS.
U.S., DEATHS. ALL-CAUSES, 1900.	317,532.	36,748	62,609.	229,360	174,214.	211,191.	1,031,654.
U.S. DEATHS CONSUMPTION 1900.	4,454.	1,287.	11,414.	63,856.	19,997.	7,949.	108,457.
PROPORTION DEATHS DUE TO CONSUMPTION.	1.41%	3.50%	18.2%	27.8%	11.4%	3.7%	
L.A., DEATHS ALL CAUSES. 1904.	474	68	166	999	154	47	
Los Ang. DEATHS CONSUMPTION	6	2	51	401	117	31	
PROPORTION DEATHS DUE TO CONSUMPTION.	1.26%	.29%	30.7%	40.1%	75.9%	65.9%	

Table 4.—This shows the tuberculosis mortality rate for the United States and Los Angeles by age periods. The proportion of deaths for the adult age periods is much greater for Los Angeles than for the United States.

A Municipal Dispensary for Consumptives.—Los Angeles can not avoid the conclusion that a large number of penniless consumptives take up their residence within its boundaries. Some of these patients come here on the advice of eastern physicians. Happily, the general awakening that has come about through the active antituberculosis warfare of late years has resulted in attention being directed to the evil advice of sending advanced patients far from home; with the establishment of sanatoria in the Eastern States and the wider acceptation of the knowledge that tuberculosis in the early stages is curable in any climate, there will be fewer and fewer of such offenses traceable to our brother physicians in the states east of the Rockies. There will always be a goodly number of consumptives who will come here on their own responsibility. The potent influence exerted by a good climate in the process of cure can not be denied and the victims of consumption will ever seek it. Many come in early stages, but, lacking means, hurt themselves by overwork. Improving their condition and arresting the disease, they imagine themselves entirely well and overdo. As their illness continues and draws on their available funds, they seek cheaper and cheaper lodging and eating houses. The larger proportion who go to the County Hospital to die has already been noted.



MORTALITY RATES BY CONJUGAL CONDITION.

CONJUGAL CONDITION	FOR THE UNITED STATES. 1900. DEATHS ALL CAUSES	CONSUMPTION	PROPORTION DUE TO CONSUMPTION	MORTALITY RATE PER 100,000 POP.	FOR LOS ANGELES. 1904. DEATHS ALL CAUSES	CONSUMPTION	PROPORTION DUE TO CONSUMPTION	MORTALITY RATE PER 100,000 POP.
SINGLE	524,271	44,924.				170	UNKNOWN	164
MARRIED	326,039	48,568.				250.		277
WIDOWED	141,547.	9,673.				41		263

Table 5.—This shows the relation to conjugal condition.

To these poverty-stricken consumptives, citizens of eastern municipalities, rather than those of Los Angeles, the city of the Los Angelenos owes an obligation. First to them as individuals, because to those who are ill unto death and without means it is under obligation to provide advice and aid. They should not be made to shift for themselves. Almost any afternoon, at the office of the Associated Charities in the county courthouse, inquiries are made by one or more of these unfortunates, who, without home or shelter, realize at last that they are ill, indeed, and seek medical advice or transportation back to their old home. Why not put this work on a separate basis; establish a room somewhere, with a dispensary staff, where this class of consumptives can be reached and put on the road to recovery, or, at least, if that be impossible, be so guarded that their presence in this community shall not be a source of danger to healthy citizens.

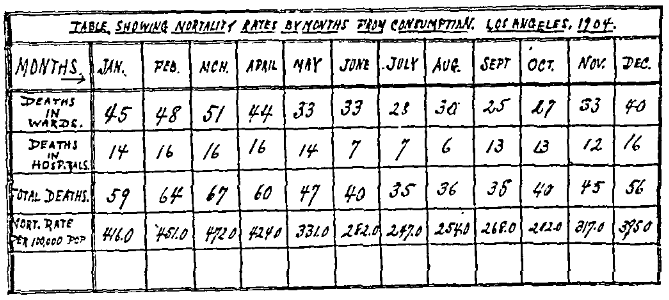


TABLE SHOWING MORTALITY RATES BY MONTHS FROM CONSUMPTION. LOS ANGELES, 1904.

MONTHS →	JAN.	FEB.	MCH.	APRIL	MAY	JUNE	JULY	AUG.	SEPT	OCT.	NOV.	DEC.
DEATHS IN WARDS.	45	48	51	44	33	33	28	30	25	27	33	40
DEATHS IN HOSPITALS.	14	16	16	16	14	7	7	6	13	13	12	16
TOTAL DEATHS.	59	64	67	60	47	40	35	36	38	40	45	56
MORT. RATE PER 100,000 POP	446.0	451.0	472.0	424.0	331.0	282.0	247.0	254.0	268.0	282.0	317.0	375.0

Table 6.—This shows how the number of deaths from consumption varies during the different months of the year.

Antispitting Ordinance.—There can be no doubt about the millions of bacilli that are expectorated by a single consumptive in the course of twenty-four hours. Fortunately, where this is expectorated on streets in the summear season, when the sunshine is at its height, it is soon rendered inocceuous. Not so, however, with the sputum in insanitary lodging houses. No matter what may be the most frequent channels of infection, whether by the respiratory or by the alimentary tract, it is generally conceded that infection from bovine sources is comparatively infrequent, if it exists at all, and that, as a rule, all individuals acquire their disease from other persons. The most frequent medium of transmission is the sputum. Antispitting ordinances are good. Too much publicity can not be given to this danger. Let the ordinance be enforced. More than that, the lodging houses should be made to have signs in prominent places, forbidding expectoration, except in suitable spittoons.

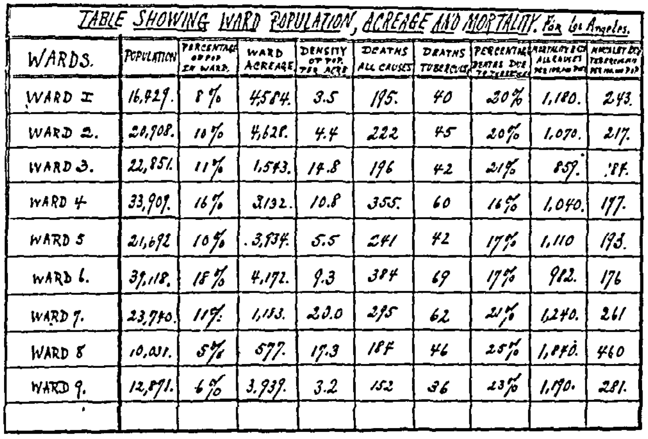


TABLE SHOWING WARD POPULATION, ACREAGE AND MORTALITY. For Los Angeles.

WARDS.	POPULATION	PERCENTAGE OF POP. IN WARD.	WARD ACREAGE	DENSITY OF POP. PER ACRE	DEATHS ALL CAUSES	DEATHS TUBERCULOSIS	PERCENTAGE DEATHS DUE TO TUBERCULOSIS	MORTALITY RATE ALL CAUSES PER 100,000 POP	MORTALITY RATE TUBERCULOSIS PER 100,000 POP
WARD I	16,429.	8%	4,584.	3.5	195.	40	20%	1,180.	243.
WARD 2.	20,908.	10%	4,628.	4.4	222	45	20%	1,070.	217.
WARD 3.	22,851.	11%	1,543.	14.8	196	42	21%	859.	188.
WARD 4	33,909.	16%	3,132.	10.8	355.	60	16%	1,040.	177.
WARD 5	21,692	10%	3,934.	5.5	241	42	17%	1,110	193.
WARD 6.	39,118.	18%	4,172.	9.3	384	69	17%	982.	176
WARD 7.	23,740.	11%	1,153.	20.0	295	62	21%	1,240.	261
WARD 8	10,031.	5%	577.	17.3	184	46	25%	1,840.	460
WARD 9.	12,871.	6%	3,939.	3.2	152	36	23%	1,170.	281.

Table 7.—This shows the relation of tuberculosis mortality by wards, to ward population, acreage, density, deaths from all causes, and so on. The crowded Eighth Ward, i. e., the plaza district, excels in both its death rates from all causes and from tuberculosis, that of any other ward. While ward density is greater for Ward 7 by acreage, the dwelling places of Ward 8 are much more densely populated.

If sputum is dangerous on the sidewalk, it is equally and more dangerous in the public buildings, in elevators, in cabs, in streets, in steam railways, in hotels, and in lodging and dwelling houses.

Disinfection of Pullman Cars.—The problem of making the owners of those temporary and traveling lodging houses known as Pullman sleepers fumigate the berths and furnishings is an intricate and difficult one. If the municipality can not solve it, the legislature should be requested to give the State Board of Health adequate powers in this connection.

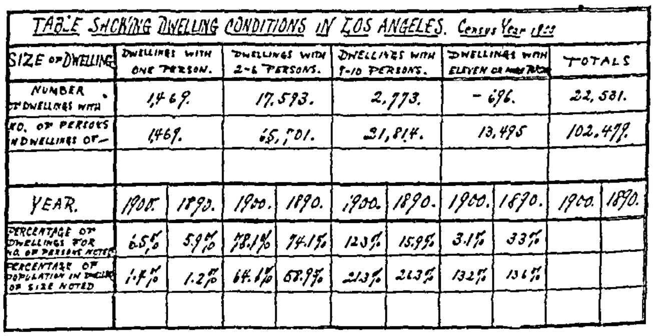


TABLE SHOWING DWELLING CONDITIONS IN LOS ANGELES. Census Year 1900

SIZE OF DWELLING	DWELLINGS WITH ONE PERSON.		DWELLINGS WITH 2-6 PERSONS.		DWELLINGS WITH 7-10 PERSONS.		DWELLINGS WITH ELEVEN OR MORE PERSONS		TOTALS	
NUMBER OF DWELLINGS WITH	1,469.		17,593.		2,773.		- 696.		22,581.	
NO. OF PERSONS IN DWELLINGS OF—	1469.		65,701.		21,814.		13,495		102,479.	
YEAR.	1900.	1890.	1900.	1890.	1900.	1890.	1900.	1890.	1900.	1890.
PERCENTAGE OF DWELLINGS FOR NO. OF PERSONS NOTED	6.5%	5.9%	78.1%	74.1%	12.3%	15.9%	3.1%	3.3%		
PERCENTAGE OF POPULATION IN DWELLINGS OF SIZE NOTED	1.4%	1.2%	64.1%	68.9%	21.3%	21.3%	13.2%	13.6%		

Table 8.—This gives some figures from the latest United States Census reports, showing how large a proportion of the population of Los Angeles lives in simple dwellings and in boarding houses.

Municipal Sanatoria and Hospitals for Consumptives.—New York and Cincinnati have established municipal sanatoria for consumptives. These perform a most excellent work not only through the direct cures, but also in being centers from which a better and wider knowledge concerning the best methods of prophylaxis and cure permeate the masses. Unfortunately, the poor can not easily be taught to regard these institutions in their proper light. In Los Angeles, by the action of the city council, consumptives can go only to the County Hospital, if we except the endowed Barlow Sanatorium, with its as yet limited number of beds. The council made no effort to abate the dangers in lodging houses, but for the private hospitals, where sputa could be disinfected, stringent rules were laid down. The theory is good, but the council, in its wisdom, if it would have been consistent, should have first turned its attention to the worst offenders, viz., the cheaper lodging houses.

The Los Angeles County Hospital has several wards for bedridden consumptives and a few tents for ambulant cases. As soon as patients get in fair condition, in other words, as soon as the active stage for which they were admitted abates, they are urged to seek quarters elsewhere. The County Hospital does this in sheer self-defense. Its entire equipment could be given over to this disease. It is true that many of these patients should have been treated by other municipalities, but since they are here they must be treated humanely.

With this mild climate, why would it not be a wise and economical thing to model after the plan adopted by Texas? That state found that its prisons had an unusually high mortality from tuberculosis. Dr. Fowler, the prison physician, sought permission to take such consumptive prisoners to the Wynne State Farm, an abandoned state prison farm with buildings. These buildings were turned into a sanatorium, hospital, farm and prison, all in one. The prisoners were treated according to the extent of the disease. Light farming, dairy work and poultry raising were done by those who were able to work. The farm produce more than paid the cost of maintenance of the institution, if the expense of guarding the prisoners be deducted. The lives of many of these men were prolonged or saved, and many other prisoners who would have been their companions in the closed prisons escaped infection; escaped, in fact, a form of murder not within the pale of the law.

With the climate of California, which is equally as beneficent as that of Texas, why could not Los Angeles pursue a similar plan? With no expense for guarding, why could not such an institution, a municipal sanatorium, be made self-sustaining here? A dairy herd, a poultry ranch and a truck garden, all requiring but comparatively light work, could be instituted, and, with proper management, could be put on as self-supporting a basis as the Texas farm. With pure air, nourishing food and good medical supervision, we have the essence, the triad of present-day methods in the treatment of this disease. With these, then, the amount of good which could be done can hardly be estimated. The air costs nothing, the food could be furnished by the labor of the patients, and the other expenses of the institution need not be much.

IN CONCLUSION.

If Los Angeles would prevent the large number of tuberculous sick, who are domiciled within its boundaries, from being a danger to their fellow-citizens, it behooves her to consider some such measures as have been outlined above.

If the physicians of Los Angeles would remain true to the tenets of their profession, it becomes their duty to take a hand in the solution of this problem.

If the Los Angeles County Medical Association, a basic unit of the American Medical Association, would remain true to its own obligations, and true to its major or parent organizations—the American Medical Association and the Medical Society of the State of California—it will aspire to give something more to its members than a didactic or even a clinical course of medicine or surgery, by taking a hand and doing its share in the solution of the many hygienic problems which confront this rapidly growing municipality.

One of these problems is the tuberculosis situation. It has as yet reached no undue danger. It should not be allowed to do so. To call attention to the need of its investigation has been one of the objects of this paper.

THE TRANSPLANTATION OF ORGANS.

A PRELIMINARY COMMUNICATION.[*]

ALEXIS CARREL, M.D.
CHICAGO.

This operation consists of extirpating an organ, with its vessels, of putting it in another region, and of uniting its vessels to a neighboring artery and vein. If the organ is replaced in the same animal from which it was removed, the operation is called an autotransplantation. If it is placed in another animal of the same species it is called a homotransplantation, while if it is placed in an animal of a different species, the operation is called a heterotransplantation.

The so-defined transplantation completely differs from the well-known experiments of subcutaneous or intraperitoneal grafts of small slices of organs.

LITERATURE.

The literature of the transplantation of organs is not extensive.

In 1901-02 I began experimenting with the view of finding a method of substituting a sound organ for a diseased one, e. g., of treating Bright's disease by replacing the diseased kidney by a normal one, or myxedema by transplanting a sound thyroid gland and securing it a blood supply by arterial and venous anastomosis. These first experiments were made in the Faculty of Medicine of the University of Lyons.

The transplantation of the thyroid gland, with its vessels, was performed on a large dog.[1] The right thyroid gland was dissected and its vessels cut. The largest artery and vein were united by a termino-lateral anastomosis to the carotid artery, and the external jugular vein. The circulation was re-established. It was impossible to observe physiologic results, owing to coagulation, which soon occurred, due to the bad aseptic and technical conditions of the operation.

About the same time the transplantation of the kidney was made.[2] The carotid and the jugular of a dog were dissected and prepared for anastomosis. The kidney, having been extirpated, with its vessels and its ureter, was put into the cervical wound. End-to-end anastomoses of the renal artery to the carotid, and of the renal vein to the jugular, were performed. The end of the ureter was united to a small opening of the skin, located a little above the sternum. On release of the clamps, the circulation was immediately re-established, and seemed thoroughly normal. After a few hours a clear fluid began flowing from the ureter. Permanent results were not observed, on account of septic complications.

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[*] From the Hull Physiological Laboratory, University of Chicago.

[1] Carrel: "Les anastomoses vasculaires: leur technique opératoire et leurs indications." 2e Congrès des Médecins de langue française de l'Amérique du Nord, Montreal, 1904.

[2] Carrel: "La technique opératoire des anastomoses vasculaires et la transplantation des viscères." Lyon Médical, 1902.

In the same year, and prior to this, similar experiments, of which I was then ignorant, were performed by Ullmann.[3] His method was different. He used Payr's tubes for uniting the blood vessels. Definitive results were not observed. In 1903 the same experiment was made by Carl Beck of Chicago, but not published.

In 1905 Floresco[4] continued these experiments. He succeeded in transplanting the kidney into the lumbar region. The urine escaped into the bladder. My technic of anastomosing blood vessels was used with a slight modification. The operation was successful, but the anatomic and physiologic results have not yet been published.

In 1905 several series of experiments were performed by Dr. Guthrie and myself in the physiologic and surgical rooms of the Hull laboratory, in order to study the results of the transplantation of the blood vessels[5] of the heart, of the thigh, of the kidney and of the other glands.[6] I am very glad of this occasion to thank Dr. Stewart for giving me the privilege of performing these researches in his laboratory.

PROBLEMS CONNECTED WITH VISCERAL TRANSPLANTATION.

It is impossible to discuss here all the problems which the question of transplantation of organs raises. We will only consider the most important conditions which are necessary to the nutrition of the transplanted organs.

In case of autotransplantation or homotransplantation, the establishment of a good circulation through the anastomoses ordinarily renders the operation successful. The life of the transplanted organs depends almost entirely on the circulation. If the vessels become obliterated, gangrene destroys the organ. Obliteration can occur very easily. It may be produced by a great many causes; for instance, injury of the endothelium by the forceps, the needles or the clamps of the temporary hemostasis, clots on the perforating stitches, fall of the external sheath in the opening of the vessel, and, above all, lack of perfect asepsis.

The ordinary surgical methods of blood-vessel anastomosis have failed to give successful results in the transplantation of organs. At first I used tubes of magnesium or tubes of "caramel," but without good results. Coagulation occurred. Afterward I found a method of suturing which was often successful. By degrees that method has been improved in such a manner that now obliteration almost never occurs. Dr. Guthrie and I, operating together, obtain practically constantly good results. That very important question of technic being settled, autotransplantation and homotransplantation become almost easy.

The problem of the heterotransplantation is much more complicated. It is well known that the serum of an animal in many cases is toxic for the cells of an animal of another species. The aim of these researches being to determine the possibility of transplanting organs from animal to man, that question is very important. Fortunately, biologic laws are not without exceptions. Perhaps the human serum is not toxic for the cells of some animals. We have some reason to think that organs of the anthropoid apes transplanted on man may not be injured by the serum, for the blood of ape and man are inactive toward each other. Besides, it might be possible to use anticytolytic serums. All these points are unknown and must be experimentally studied.

POSSIBLE RESULTS OF VISCERAL TRANSPLANTATION.

Only a few of the possible results of the transplantation of organs will be mentioned in this paper. We do not want to discuss here the physiologic applications of the method. They are numerous and of considerable importance. Already we have performed several experiments along this line. For instance, Dr. Stewart and I have transplanted the kidney, with reversal of the circulation, in order to study the modifications of the secretion. With Dr. Guthrie, I transplanted one of the kidneys of a dog into the cervical region, and, on the third day after the operation, made a comparative study of the urine secreted by the transplanted and the sound kidney.[7] I performed also the transplantation of the heart of a dog on the carotid and the jugular of another dog. The heart was beating and the blood circulating through it. Dr. Guthrie and I established an arterial circulation through the right inferior thyroid vein of a dog, which had symmetrical hypertrophy of the thyroid glands. Marked changes occurred. Thus it appears that the reversal of the circulation in only one vein of a gland may alter the physiologic processes. The replantation of the thyroid gland was successfully made.[8] Probably our knowledge of the pancreas, the spleen, etc., may be increased by this method.

From a clinical standpoint, the transplantation of organs may become important. Perhaps it will be possible to treat myxedema, idiocy, etc., by transplanting a sound thyroid gland with anastomosis of the thyroid vessels to suitable arteries and veins. In kidney affections the transplantation of a sound kidney may be of benefit. Perhaps, after a complete amputation of arm, leg, or thigh, it may be possible to replant the limb, or another similar limb, if it is procurable.

A great many experiments on animals must be performed before using that method on man. As yet it is impossible to say whether or not the transplantation of organs will yield practical results. It seems possible, and we hope that it may open new fields in therapy and biology.

I wish to thank Dr. Guthrie for helping me in the revision of this paper.

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[3] Ullmann: "Experimentelle Nierentransplantation." Wien. klin. Wochft., 1902.

[4] Floresco: "Conditions de la transplantation du rein. Recherches sur la transplantation du rein." Journal de Physiologie et de Pathologie générale, 1905.

[5] Carrel: "Anastomosis and Transplantation of Blood Vessels." American Medicine, 1905.

[6] Carrel and Guthrie: "Transplantation of the Kidney. (To be published.) "Transplantation of the Inferior Thyroid Vein on the Carotid Artery, in a Case of Goitre." (To be published.) "Amputation of the Thigh. Replantation." (To be published in the American Journal of the Medical Sciences.)

[7] Carrel and Guthrie: "Functions of a Transplanted Kidney," Science, Oct. 13, 1905.

1905.

[8] Carrel and Guthrie: "Extirpation and Replantation of the Thyroid Gland with Reversal of the Circulation," Science, Oct. 27,

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Consultation.—If the physician is worried and anxious about his case and desires advice from a man who has had more experience in that particular disease, it seems only proper that his brother practitioner should come to his aid as a consultant for a small fee, or for no fee, if none is obtainable from the patient. It is the bond of professional brotherhood that seeks to lessen the mental stress in both instances. Yet consultants have been known, I understand, to refuse thus to relieve the anxiety of a doctor, because the payment by the patient of a certain fee was not possible. There is little doubt that the family physician at times pays consultation fees out of his own pocket in order to do his best for patients with whose straitened circumstances he is familiar.—John B. Roberts.

TRANSPERITONEAL LIGATION OF THE RENAL VESSELS

AS A PRELIMINARY TO A LUMBAR NEPHRECTOMY IN TUBERCULOSIS OR MALIGNANT GROWTHS OF THE KIDNEY.

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A recent somewhat exhaustive study of tuberculosis of the kidney, the results of which have been published elsewhere, necessitated the examination of a large number of pathologic specimens, not only of renal tuberculosis but also of malignant tumors, in the Johns Hopkins Pathological Laboratory. From a careful analysis of over 400 cases of renal tuberculosis which I have collected from the literature and from personal observations on a number of instances of tuberculosis and malignant growth, I have been led to conclude that in the course of a lumbar nephrectomy for either of these two conditions, the operator is liable to squeeze tuberculous or malignant material into the general circulation and thereby cause an infection or metastasis. This conclusion is based on the following facts:

First.—Microscopic examination of numerous specimens of renal tuberculosis showed that the lymphatic vessels and the capillaries not infrequently end very near the tuberculous area. A certain number of these vessels are blocked by a proliferation of the endothelial cells, but in others the lumen is distinctly patent, so that it is possible in the course of certain manipulations that some of the tuberculous material may be squeezed into them, and thus gain entrance into the blood or lymph circulation. Closely similar physical conditions are seen in malignant growths.

Second.—In certain types of malignant tumors of the kidney the disease process extends well into the renal vein, sometimes forming a definite projection without having become an intimate part of the vessel wall. In all such cases it is very obvious that a small particle might very readily become detached and pass into the vein.

Third.—In two cases which came under my notice an acute, more or less general, tuberculosis followed the removal of the tuberculous kidney, and produced death within two months. In several instances belonging to my series of collected cases similar results were noted. Thus on one of my patients, who suffered from a renal and secondary bladder tuberculosis, a nephrectomy was done. A temperature of 102 degrees F. developed on the second day and the fever continued to the end. For the first ten days no focus could be found, but later trouble was discovered in the lower part of the right lung. This spread, the disease became general, and the patient died from miliary tuberculosis at the end of two and a half months.

Fourth.—In doing a lumbar nephrectomy, in order to free the kidney from its bed, it is necessary to press, squeeze and otherwise manipulate the organ rather roughly.

In view of the above facts, it has occurred to me that it is very possible, and indeed probable, that, during such manipulations as are required in the performance of nephrectomy, tuberculous material carrying tubercle bacilli in cases of renal tuberculosis or malignant material from a malignant growth can very readily be squeezed into the lymphatic or blood circulation, and thus give rise to a general infection.

In order to prevent such a possibility, I propose the following operation:

Do a laparotomy, push the intestines to one side, incise the posterior peritoneum, expose the renal vessels, put a double ligature around each of them, cut between and free the distal end for a short distance. In passing the ligatures it is well to include a certain amount of the immediately surrounding tissue, so as to pass around and ligate the lymph tract, which is not visible but which runs alongside of and very near to either the artery or vein. The peritoneum is then closed posteriorly and the anterior abdominal wound sutured in the usual manner. The patient is then turned on his side and the ordinary lumbar nephrectomy is done.

It may be asked why, when the abdomen is open, we should not remove the kidney through this wound. As a contraindication is the fact that with the very best operators the mortality for a transperitoneal nephrectomy is by 3 per cent. higher than for a lumbar nephrectomy.

It may be objected that this procedure produces two separate wounds and prolongs the time of operation. This is, to a certain extent, true, but it must be remembered that after the vessels have been ligated and cut, and to a certain extent freed, the time and manipulations necessary for a lumbar nephrectomy are reduced by fully one-half, so that the time spent in the preliminary ligation is offset by the lessening of the work required for the lumbar procedure.

The opening of the peritoneum under proper precautions should not in any sense add to the mortality of the operation.

The above procedure I simply propose for consideration. I have not done it, nor have I seen it done, but I suggest the method on theoretical grounds. The point which I wish to emphasize is that the usual method of doing a nephrectomy, in that it necessitates a squeezing of the kidney while the vessels are still open, is certainly dangerous in cases of tuberculosis or malignant growth.

Special Articles

MEDICAL AFFAIRS IN THE HEART OF THE ARCTICS.

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CHICAGO.

(Concluded from page 1569.)

Epistaxis.—During the summer the Eskimos become so plethoric that Nature seeks to give relief by draining away the superfluous blood by hemorrhages from the nose. Epistaxis is a very common complaint in summer. I have frequently observed it, especially in young men who rowed my boat or accompanied me on my hunting trips inland. Any unusual exertion brought on the attacks. Men were more frequently subject to such attacks than women, and, although I could not get any definite information, I surmise that in women Nature relieves the abnormal congestion by increasing the menstrual flow.

Degeneration Diseases.—The Eskimos in the Arctic region are singularly free from the long list of degenerative diseases which cause so much suffering and cut short the lives of so many victims in civilized life. Commander Peary assured me that he had never seen a case of dropsy or apoplexy among his numerous Eskimo acquaintances. The only Eskimo in whom I detected arterial degeneration was the syphilitic to whom I have referred before. I examined the radial pulse of several men who were at least 70 years old, and found it as soft and as regular as that of a healthy young adult. None of these showed even a trace of orcus senilis. Bright's disease, cirrhosis of the liver, diabetes, arteriosclerosis, coxitis senilis, cataract and other diseases resulting from visceral degeneration evidently do not occur in the Arctic region.

Ship Catarrh.—When the natives came on board the *Erik* and *Roosevelt,* with the exception of a few from the North Star Bay settlement who brought with them a slight nasal catarrh, they were free from catarrhal affection of the respiratory organs. In a day or two most of them were afflicted with a severe cough and a thin mucous discharge from the nose—in other words, an acute catarrhal affection of the nose and large bronchial tubes. This is a familiar disease to seamen who visit this region. The natives expect it when they board a vessel. The pure sterile air of the Arctic region does not contain the essential microbic cause of catarrhal inflammation. The ship brings the microbes and the coal-dust inhaled prepares the soil for their specific pathogenic action. This nasal and bronchial catarrh of the natives contracted so promptly on board ship is familiarly known as "ship catarrh." It lasts only a few days and does not appear to give rise to any considerable constitutional disturbance, as all those afflicted went about, ate their rations with a ravenous appetite, and the men lent valuable assistance in loading and unloading the cargo of both ships.

Epidemic Diseases.—Some ten years ago Commander Peary made a careful count of the Eskimos of that part of the west coast of Greenland north of the Danish colonies and settlements and fixed their number at 243. Since that time the population has diminished and at present does not exceed 150, and of these the women outnumber the men by far. Since that time the population has been decimated by two epidemics, Arctic dysentery and la grippe.

Arctic Dysentery.—During the years 1901-1902, 35 Eskimos were taken ill with fever and dysenteric discharges. During the beginning of the epidemic, which originated at Cape York, it was believed that the patients were made ill by ptomain poisoning, but the spread of the disease after change of diet soon furnished proof of the true nature of the disease. The disease pursued a very severe course and four of the Eskimos died. In the severest cases delirium was a prominent clinical feature. The tenesmus and bloody mucus pointed to the large intestine as the seat of the disease. The patients who survived became emaciated to a skeleton and did not recover their former strength for several months. It was ascertained later that the disease had its origin in Finland, traveled across Siberia, made its appearance at Cape Barrow, Alaska, finally cropped out in this remote part of the world and from here took its flight as far as Ungava Bay, an arm of Hudson Strait, where it proved very fatal to the Eskimos of that locality. The Greenland Eskimos abandoned the place when the disease had expended its force and that was the end of the epidemic. This disease traveled an enormous distance, from Finland to Ungava Bay, and crossed vast stretches of uninhabited territory, and from country to country between which there was no communication by human beings, and the only conclusion we can come to regarding its occurrence in so many isolated places in the Arctic region is that the parasitic cause was carried by animals, undoubtedly migratory birds. Most of the water fowl in the Arctics are infested with parasites, and the most common vermin, which the Eskimos carry in their clothing and relish as a delicacy eaten raw and squirming, is a large louse which selects for its host the most numerous of all Arctic birds—the little auk. There is every reason to believe that birds can become the carriers of pathogenic germs and can convey them from place to place, either in their feathers or in discharges from the intestinal canal.

La grippe, in its endless clinical forms, had its origin in the cradle of the North, and has since spread from there nearly over the entire surface of the inhabited parts of the world. It seems to have no respect for climate and nationality. This disease reached the Eskimos in the north of Greenland during the winter of 1896-1897. It attacked young and old alike, but proved more fatal in adults than in children. The southern settlements suffered more than the northern, but its spread from one settlement to another was very rapid. The bacillus of la grippe in this epidemic selected the nasal passages, the pharynx and large bronchial tubes as favorite seats for localization. The exact mortality is not known, but a number of the most useful men in the different settlements succumbed to it. From eye witnesses I ascertained that in nearly all cases nasal obstruction was one of the most distressing symptoms and that in blowing the nose something like membrane was expelled. Some believed that the epidemic was diphtheria, but the disease proved much less severe in the case of children than in adults and in none of them did it extend to the larynx. Aching pains in the back and limbs and great depression, mental and physical, were invariably complained of by patients old enough to express their feelings. The disease has not reappeared since.

Female Predominance.—The predominance of the female over the male population, the large number of children and young widows without mates remind us of another fruitful cause of the falling off of the Eskimo population—it is the risk to life of the walrus hunter. The male walrus, and the mother walrus as long as her child needs protection, are fighters. Commander Peary says that the walrus when in a fighting mood is a more dangerous enemy than the polar bear. Walrus hunting calls for skill and strength, and among the Eskimos this work falls to the lot of the younger men. The kayak, by means of which the hunting is done, is a very frail craft. The Eskimos can not swim, hence if the walrus, with its powerful tusks, tears a big hole in the sealskin of the kayak or careens the little craft, with few exceptions it comes out victorious from the fight, and the poor hunter drowns or is killed by the infuriated foe. Few years pass without one or more lives being lost in this manner. As all property is held in common, the loss of an able-bodied man to a settlement means a great calamity, as his widow, children and other relatives whom he may have to support all become a charge on the community.

A People Without a Physician.—Nearly all primitive races feel the needs of some one specially qualified to dress wounds, mend broken bones, and to whom they can apply for aid when disease throws the shadows of death over them. This sense of helplessness in case of accident or disease is inborn, as well as the desire for medical aid when needed. The Polynesians have their "Kahunas," the Indians their "medicine men," but the Eskimos, perhaps because so few accidents occur among them and because their climate and manner of living exempt them from so many diseases which support physicians in civilized communities, have felt no such need of medical aid. They have neither physicians nor medicines. Here is a part of the world in which disease, when it occurs, is allowed to take its own course. Even Nature has ignored medicine in the Arctics. About the only vegetable product I could find here that could make any claim to the possession of medicinal virtues was the dwarf willow, from an inch to eight inches in length; not the erect willow of our copses, but reclining humbly on the scanty soil in a begging attitude, asking protection against the merciless cold of the long polar night. Nature pursues here a prophylactic course and fills the office of a hygienist and sanitarian rather than that of a physician or druggist. She shuts the door against disease-producing germs, and incorporates in the food on which the natives subsist iodin, the most powerful and least harmful of all known antiseptics. The Eskimos, like all other primitive people, are exceedingly superstitious, and when sick and threatened by death seek help and consolation from unseen sources. They believe in a good and a bad spirit. The former is the departed soul of a father, the latter a monster human being or animal. The latter they look for and sharpen their knives with intent to kill should he be apprehended. Sorcerers (angekoks) are summoned, who implore the good spirit by incantations and a mournful, unceasing, monotonous chant for help. The use of remedies internally or externally is not even thought of. The art of healing has no place in the heart of the Arctic region.

ESKIMO SURGERY.

Surgery among the Eskimos is verily a *lucus a non lucendo.* Fortunately, injuries and surgical affections very seldom afflict them.

Fractures.—The occupation of the Eskimos reduces the causes of fractures and dislocations to a minimum. In case of fracture, the injured limb is wrapped up at once in fur without making any attempt at setting the broken bone. The fur dressing affords some, if not complete, immobilization of the injured limb.

Wounds.—Wounds heal promptly without suppuration under the only dressing in use, the skin of an animal with the bare side directed toward the wound. All of the skins in use by the Eskimos emit a very disagreeable smell and yet they are surgically clean. Suturing of the wounds is unknown to them. At North Star Bay I examined a little girl who had recently been bitten by a dog. The right upper eyelid near the internal canthus of the eye was severed by a vertical tear. The wound was cicatrized with the eyelid almost completely everted. One or two stitches in this case would not only have shortened the time of repair but would have effectually prevented this permanent and annoying deformity. Several cases of gunshot wound that I examined had evidently, judging from the size and appearance of the resulting scars, healed by primary intention. In one case the bullet passed between the fibula and tibia in an antero-posterior direction, without fracturing either of the bones. The scars were small, smooth and movable, and the muscle function was perfect.

Frost-Bite.—Serious forst-bite, freezing of a limb deep enough to cause gangrene, is extremely rare among the Eskimos. Their winter clothing of bear and fox skins and fur or birdskin underclothing, with double fur boots, protects them against the severest cold. When the hands get cold the arms are withdrawn from the sleeves and crossed over the anterior surface of the chest under the coat, where they receive the benefit of the body warmth. The feet are kept warm by keeping the legs in constant motion. This restless condition of the legs becomes a habit to these people, which is kept up, although entirely unnecessary during the summer, particularly by the women. Whether sitting, standing or lying down, the women keep legs and feet busy.

In case of frost-bite the Eskimos proceed to rub the frozen part with snow and slowly thaw it out by body warmth. If it is the hand, the warmth of the chest underneath the fur coat will do it, if it is a foot, the body warmth of a willing sympathizing member of the family or neighbor is brought to bear on the congealed member. By this gradual process of restoring the suspended circulation, serious consequences are usually averted.

Amputation by an Eskimo Woman.—A few years ago the oldest inhabitant of the North Star Bay settlement was out on the ice hunting seal. On firing the old gun, the barrel exploded and a fragment of steel inflicted an ugly wound of the forehead over the right eye. The shock rendered him unconscious. He lay on the ice in this condition for a considerable length of time before he was discovered by one of his fellow hunters, who, with the assistance of others, conveyed him to his igloo, where he recovered consciousness. One of his feet was so badly frozen that gangrene of all the toes and a considerable part of the foot ensued. For weeks the dead toes dangled below the line of demarcation, but the tendons interfered with Nature's efforts to cast off the dead from the living tissues. The patience of the patient finally gave way and he implored his wife to amputate the toes. She consented, took a large knife and in one long sweep severed the dead toes from the granulating stump. The wound has never healed. The end of the stump is now covered with an adherent, thin, bluish scar of very low vitality but nearly the entire plantar surface of the foot is occupied by a chronic ulcer that will never heal. Since this mishap the patient has had to walk on knees and hands in going from place to place until the engineer of the *Erik* made for him a pair of rude crutches, with the aid of which he is now learning to walk erect again (Fig. 2). A gift was never more appreciated than was this one. We cleansed the filthy limb as far as the knee and disinfected the indolent, ill-looking ulcer and supplied the patient with dressing material which will last him a long time, and in the use of which his wife received adequate instruction. As the ulcer will never heal, an amputation is urgently indicated, as it is the only means which will give him permanent relief.

Tumors.—Extensive inquiry and a careful scrutiny of all the Eskimos that came under my personal notice confirm the statements made to me from different sources that there are no tumors of any kind to be found among the inhabitants of this part of the Arctic region. I could not even discover a wart or retention cyst of the appendages of the skin. Lipoma and fibroma, so common in the tropics, are looked for in vain here. Has the highly iodized food of these people anything to do in the prevention of tumors of all sorts, benign and malignant? It seems so to me.

Suppurative Infection.—The very fact that nearly all wounds and abrasions heal by primary union without either treatment or even effective mechanical protection is the strongest and most convincing proof that these people live in an atmosphere and on a soil free from pyogenic bacteria. It is well known, on the other hand, that when the Eskimos come aboard a vessel and take part in loading or unloading cargo, the slightest scratch is liable to give rise to suppuration. It is related on reliable authority that during the Greeley expedition a member of his crew, while at Cape Sabine, suffered from a frost-bite of one of his legs resulting in gangrene which extended as far as the knee. The soft parts sloughed, leaving the bones exposed. He was never taken out of his sleeping bag saturated with his own excretions, and yet no suppuration occurred until, in this condition, he was brought to Godhavn. Here pus formed and he died in consequence of the pyogenic infection. Commander Peary remembers only one case of grave phlegmonous inflammation occurring in an Eskimo. It was in a man who accompanied him on his trip to the most northern part of Greenland in 1900. On the way the right hand and arm became enormously swollen and very painful, and he was so ill that he had to be sent back to Conger. For a long time the swelling and pain continued, when finally over the wrist-joint on the palmar surface of the forearm the swelling ruptured and a large quantity of pus escaped. Suppuration continued for a long time and a second perforation took place near the first one. Both eventually healed and the patient very slowly regained partial use of the hand. I examined this man at Etah. All of the fingers were contracted in a semi-flexed position. Two retracted scars over the wrist-joint marked the places where the deep-seated phlegmonous abscess (suppurative tendo-vaginitis) ruptured and where the scars have become permanently attached to the underlying tendons. Considering that this patient had no treatment of any kind, the functional result must be considered excellent. What dreadful suffering this man must have endured until Nature succeeded, under great difficulties, in eliminating the products of the deep-seated suppurative inflammation, can be better imagined than described. That the streptococci responsible for this fearful infection were imported requires no argument.

Erysipeloid.—Rosenbach's erysipeloid is an inflammation of the superficial lymphatic channels of the skin, which is seen with few exceptions only in persons engaged in the handling of fish and game, butchers, cooks, etc. Our cook on the *Erik* presented a good example of this etiologic and pathologic form of lymphangitis on the up-going trip. The sealers, of which the crew of the *Erik* was almost completely made up, informed me that a somewhat similar affection frequently occurs among the sealers when engaged in their business of killing and handling seal and is known among them as "seal finger." I expected to find erysipeloid among the Eskimos who live exclusively on game. All inquiries in this direction gave uniformly negative information and we must take it for granted that the germ of this disease, as well as the streptococcus of erysipelas, can not thrive in that climate.

ESKIMO MIDWIFERY.

We finally come to a part of the healing art of which the Eskimo knows something and in which he takes an active part—namely, midwifery. When a woman is in the throes of agony of labor, it is very natural that the bystanders, whoever they may be, take by suggestion instinctively, so to say, an active part in the parturient act. To lighten the curse imposed on woman for her indiscretion in the Garden of Eden is the natural dictation of a humane feeling which exists more or less in all classes of men. The Eskimo woman in labor is made the recipient of much attention and is given the willing assistance of one or more women who have learned from experience what it means to bring a new being into the world.

> "All is but lip-wisdom which wants experience."—Sydney.

Family life among the Eskimos of Greenland is an open affair. Privacy does not enter into the igloo and the tent. Within a space not larger than a good-sized family table everything is in common, including the table, which does not exist, and the common family bed, which consists of furs, the number of skins remotely indicating the size of the family. But when the Eskimo woman is about to give birth to a child, the husband, or whoever the prospective father may be, sees to it that the important act takes place in privacy. In summer he fixes a small tent for her exclusive use; in winter he builds a small ice igloo. She enters this private apartment with one or two women who have earned the title of motherhood, and on whom she places reliance during the coming ordeal. The parturient room is supplied with the necessary number of skins. When labor begins she is placed in a squatting position and one woman seated behind her with face toward her back passes her arms around her, clasps hands over her abdomen and when labor pains come on, makes firm compression. If a second woman is present, she takes firm hold of the patient's hands and does her good share of the grunting and straining simultaneously with the uterine contractions. A man gives official notice to the community of what is happening by going from tent to tent or igloo to igloo and with a stick or bone striking the roof with a rap that announces the news without making use of his tongue. When the child is born the officiating midwife takes a sharp stone and severs the cord near the umbilicus. As the cord is not tied, hemorrhage is prevented by dividing it with a dull instrument. The infant is wrapped in fur and is at once placed in the care of its mother. The only remaining function of the midwife consists in tamponing the vagina of the delivered woman, which is done with a bird skin. The woman then takes her child to the family igloo and resumes at once her usual household duties. Should the labor prove to be a protracted one, a small hole is made in the wall of the tent or ice hut, and through this opening food is thrown into the room for its inmates. The mother carries the child in the hood of the fur jacket on her back, next the skin, with its head on a level with or a little above the collar of its mother's fur coat. At night the infant takes its place in the common family bed. The Eskimo women nurse their children until they are two or more years old. When they are three months old they are given their share of blubber. Small pieces are placed in the mouth and they swallow them whole.

I saw many Eskimo infants and all of them were very pictures of health. Seven of them were on the *Roosevelt* when she sailed for the farthest North. Infantile mortality is very small notwithstanding the lack of care bestowed on the newborn. The fur clothing, the mother's body heat and the warmth of the joint family bed protects them against cold and instead of gorging their little stomachs with food prepared by the chemist they thrive on their mother's milk and the simple food Nature has provided for them. Neither children nor adults exhibit any indications of the existence of rachitis.

Judging from the robust appearance of the Eskimo women, I have reason to believe that they are free from uterine and ovarian diseases and that gynecology would be useless in the Arctic regions.

ANIMAL DISEASES.

The only domestic animal the Eskimo knows and owns is the dog, or rather a mixture of dog and wolf. The dog is his beast of burden on which he must rely in traveling over ice and snow. The dog is to him vastly more than the horse is to us, it is—besides his own strength—his only motor power. Commander Peary took with him more than 200 of these beasts on this expedition, and if he succeeds in reaching the pole these faithful animals are entitled to their good share of credit. Nansen, Peary and other Arctic explorers have been seriously hampered in their work by a lack of dogs owing to the breaking out among them of a disease that nearly always proves fatal. The dog population all over Greenland suffers annually great losses from this disease. Neither Nansen nor Peary is satisfied that it is hydrophobia, although many facts and symptoms point that way. The governor of Godhavn, who has seen much of this disease, informed me that there are two distinct clinical types, acute and subacute. In the acute form the animal bites, froths at the mouth and dies within forty-eight hours; in the subacute type the dog sickens, is not vicious, does not froth at the mouth, the hind legs become paralyzed and the animal dies after an illness of about two weeks. If this disease is hydrophobia it is not the same as hydrophobia in other countries, because persons bitten by the sick animals do not contract the disease. Peary's own daughter was bitten by one of the sick dogs, but no ill results followed. The postmortems made on some of Peary's dogs revealed, as the only demonstrable pathologic condition, internal congestion of the mucous membrane of the small intestine, which induced Peary, acting on the supposition that the disease had its origin here, to administer a pint of castor oil to the next dog that sickened. This treatment proved curative, as the animal recovered. That dogs may contract the disease without being bitten by a diseased animal is a well-established fact, and the eliminative treatment would suggest itself the rational one. Loss of dog life from this cause is a source of constant anxiety to all Arctic explorers and of much concern to the natives, whose wealth is proportionate to the number of dogs they own.

Hares, rabbits and dogs are favorite hosts of the tapeworm, and the tapeworm, in turn, is the parasitic cause of echinococcus disease, which is so common in Iceland, Northern Europe and Australia. I took special pains to investigate whether or not tapeworm is present in the intestinal canal of the Eskimo dogs and the Arctic hare. I had more opportunities than I desired to examine the fecal discharges of more than 200 dogs for days on the decks of the *Erik* and *Roosevelt*. Not a trace of this parasite could be found. I killed many Arctic hares and examined their intestinal canals with the same negative result. It thus became clear to me why echinococcus cysts, so prevalent in Iceland, a neighboring island of Greenland, could not be found as one of the few diseases which afflict the Eskimo race. Pondering over this, as well as the numerous other prophylactic measures which Nature employs in protecting these simple, childlike people against disease, I became fully convinced that Providence rules here, like elsewhere, wisely and with forethought, the destinies of man.

IMMUNITY.

CHAPTER XXXII (Concluded).

INFLUENZA.

Influenza occurs sporadically and in epidemics of greater or less proportions. Its extreme contagiousness is shown by the striking rapidity with which it spread over the whole civilized world in the epidemic of 1889 and 1890, leaving behind it a trail of lesser epidemics which have prevailed up to the present time.

Bacillus Influenzæ.

During the epidemic just cited a number of organisms were erroneously described as the cause of the disease. In 1892, however, Pfeiffer discovered a minute bacillus which he found constantly and in large numbers in the sputum of those suffering from influenza, whereas it was absent from other maladies. The observations of Pfeiffer have been confirmed by a large number of investigators, and the organism, *Bacillus influenzæ*, is now generally accepted as the cause of the disease. It is one of the smallest of bacteria (0.2 or 0.3 by 0.5 microns), is non-motile and forms no spores. A medium containing blood or hemoglobin is essential for its artificial cultivation, and even under the best conditions it grows somewhat meagerly and slowly. A number of bloods, but particularly those of man and the dove, favor its growth. It is a strong aërobe. The organism is best stained by a dilute solution of carbol fuchsin (1 to 10), and it shows a property called polar staining, i. e., the ends stain more deeply than the central portion.

Symbiosis.

When the staphylococcus and some other organisms are grown in mixed culture with the influenza bacillus, the latter is stimulated to a more vigorous growth (symbiosis). According to Jacobsohn, killed cultures of the streptococcus greatly increase the virulence of the influenza bacillus when the mixture is injected into animals.

Pseudo-Influenza Bacilli.

Pfeiffer designates as pseudo-influenza bacilli a number of influenza-like organisms which have been found in man and animals. They have the morphology of the influenza bacillus, are a little larger, and also prefer a medium which contains hemoglobin, but since some of them occur in animals which are known not to be susceptible to influenza, it is concluded that they can not be identical with the influenza bacillus. The influenza-like bacillus which Jochmann and Krause consider as the cause of whooping-cough, may be mentioned in this connection.

Resistance and Virulence.

The resistance of the bacillus to desiccation, sunlight and unfavorable temperatures is very low. It dies in from twenty-four to thirty-six hours at room temperature, when contained in sputum, and lives for about thirty-two hours in hydrant water (Pfeiffer). It is not highly virulent for experiment animals, although a condition said to resemble influenza has been produced in monkeys by placing pure cultures on the nasal mucous membrane. Fatal infections may be produced by intravenous inoculation of the bacillus into monkeys and rabbits, and killed cultures produce a fatal intoxication in rabbits. When virulent cultures are injected into the peritoneal cavity of guinea-pigs in sufficient quantity, the bacilli proliferate, and peritonitis ending fatally is produced. Since the bacilli seem not to proliferate when fatal quantities are injected intravenously into rabbits, and since fatal intoxication, without the occurrence of bacteriemia, may take place when a tracheal infection is induced in the ape (Pfeiffer), it is concluded that the toxic phenomena of influenza are due to the absorption of bacterial toxins from the mucous surfaces. A soluble toxin has not been obtained in culture media. The organism is a facultative pus producer.

Distribution in the Body.

So far as is known the influenza bacillus is excreted only with the secretions of infected surfaces, i. e., from the upper respiratory passages, conjunctiva, ear, etc. The belief, commonly held, that the influenza bacillus does not enter the circulation is based on the fact that cultures have not been obtained from the blood (Beck). That this may be an erroneous belief is suggested by a case of fatal influenza peritonitis reported by Hill and Fisch, in which the latter cultivated the organism in large quantities from the spleen. When the bacilli reach the blood it is probable that they are killed quickly. That metastatic infection is possible, however, either by way of the lymph or blood channels, is shown by the occurrence of influenza meningitis, and, rarely, of influenza peritonitis. It is probable that the ordinary nervous phenomena of the disease are due to intoxication rather than to actual infection of the nervous structures. As to whether the symptoms of so-called intestinal influenza are due to an invasion of the intestines by the bacilli or to a specialized action of circulating toxin seems not to have been definitely settled. There certainly is abundant opportunity for infection of the intestines in cases of bronchial influenza. In the bronchitis of influenza the organisms are found in large numbers in the smaller bronchial tubes, both free and within leucocytes; hence, in searching for the bacilli clinically it should be certain that the sputum examined represents the bronchial exudate. In influenza pneumonia, which usually is of the lobular type, the bacilli, mixed with pus cells and contained in them are found in large numbers in the alveoli. Pure cultures of the bacillus have been obtained from cases of conjunctivitis, and they occur not infrequently in middle ear complications which develop during the course of the disease. Influenza conjunctivitis sometimes occurs in epidemic form, particularly in institutions and schools.

Mixed Infections.

Pneumonic foci which develop during influenza frequently show the pneumococcus, and sometimes the streptococcus or the bacillus of Friedlander in addition to the influenza bacillus, and similar mixed infections occur in pleurisy and in middle-ear disease. Influenza may be superimposed on other infections; individuals suffering from pulmonary tuberculosis are particularly susceptible to influenza and in them the prognosis is unfavorable.

Transmission, Infection Atria and Prophylaxis.

The disease is transmitted directly from man to man and, chiefly, it is supposed, by means of infected droplets of sputum which are expelled in coughing and sneezing. Obviously kissing affords opportunity for infection. Infection by indirect contact is of less importance because of the rapid death of the bacillus after it leaves the body, but living germs may well be disseminated by soiled handkerchiefs or other contaminated linen. Dust infection possibly is of minor consequence. Chronic influenza in which the bacilli may persist in the bronchi for weeks, and cause recurrent acute attacks, is of importance for the maintenance of an epidemic. Particularly in tuberculous cavities the bacilli may flourish for long periods.

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Immunity, Susceptibility and Recurrences.

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Serum Properties.

Although Delius and Kolle were able to produce a slight increase in the resistance of guinea-pigs by the intraperitoneal injection of cultures, nothing like a well-marked immunity was obtained; nor did the serum of immune animals or convalescent man show any increased protective power for other animals. Slatinéano, however, obtained serum of some protective power for guinea-pigs, by the immunization of rabbits and guinea-pigs, but it had no curative effect. The results of Cantani were similar, and both observers noted the development of bactericidal power, as determined by the Pfeiffer reaction, and of agglutinins. At the present time there seems little to hope from vaccination.

There is said to be some increase in agglutinins in man as a consequence of infection. The agglutinating power of the serum of an immunized animal may be as high as 1 to 500 (Cantani).

SOFT CHANCRE.

The independence of soft chancre from syphilis, and its infectiousness by inoculation with the purulent secretions of the ulcers, were established long ago. Rollet found that filtered pus lost its infectiousness.

Bacillus of Ducrey.

A large number of observers had found bacteria of one kind or another in the pus and in stained sections of the walls of the ulcers, and probably some of them (e. g., Unna), had seen the bacillus which Ducrey described (1889) and later cultivated, and which is now proved to be the cause of the disease. The bacillus is very small (0.4x1.5 microns), is non-motile and shows polar staining. It resembles the plague bacillus in form, but is somewhat smaller, and does not show the extensive involution forms of the latter. In the ulcer it lies singly, in small groups, or more characteristically in the form of bands, made up of two or more parallel chains, which pen[illegible]te the wall of the ulcer. Large numbers are often
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CHAPTER XXXIII.

PNEUMOCOCCUS INFECTIONS.

PNEUMONIA.

Organisms Causing Pneumonia.

Although there are several types of pneumonia or pulmonitis, no one organism is the exclusive cause of any one type, except perhaps the viruses of syphilis and tuberculosis, and any organism which can cause pneumonia can also set up inflammations in other organs. The following organisms are known to cause acute pulmonitis: *Diplococcus pneumoniæ*, *Streptococcus pyogenes*, *Staphylococcus pyogenes*, bacillus of Friedlander (*B. pneumoniæ*), *B. influenzæ*, *B. pestis*, *B. diphtheriæ*, *B. typhosus*, *B. coli communis*, and *Micrococcus catarrhalis*. The organisms of tuberculosis, actinomycosis, the virus of syphilis and of some other infections cause chronic inflammations of the lungs. Some of these organisms have already been considered and others will be briefly discussed later, in their relation to pneumonia, without, however, entering into details as to the various types of the disease.

Diplococcus Pneumoniæ.

The *Diplococcus pneumoniæ* is the commonest cause of lobar pneumonia, and not infrequently produces lobular pneumonia, and has been found as the only organism in acute interstitial pneumonia (Weichselbaum). Friedlander (1882) found that capsulated cocci were present constantly in the exudate of pneumonia. Such cocci in all probability represented the organism which at present is known as the diplococcus of pneumonia, yet the cultures which he obtained somewhat later showed the characteristics of the organism now known as the bacillus of Friedlander. Fraenkel in 1884 obtained the first named coccus in pure culture, and his investigations, together with those of Weichselbaum and many others, eventually established the independence of the two organisms, and showed that the pneumococcus is the most frequent cause of pneumonia, but that other organisms, including the bacillus of Friedlander, may occasionally produce the disease.

Typical and Non-Typical Strains.

The typical pneumococcus is slightly elongated, and both in the tissues and in culture media it grows in pairs. Typically, also, the pair possesses a capsule which is present constantly in the tissues and may be obtained on certain culture media, as milk and serum. It is non-motile, non-flagellated, forms no spores and stains by Gram's method. Rather scant growth occurs on the ordinary culture media in the form of small colonies which resemble those of the streptococcus, and unless special media are used it usually can not be carried through many generations. When grown in sputum, or on a medium which contains the blood or serum of man or some other favorable animal, it may be preserved for many months in a fairly high state of virulence. By growth at 39° C. virulence is lost rapidly. Strains which are atypical in one of several ways are encountered not infrequently. Such strains may show a low virulence, may grow well at ordinary temperatures (the typical organism not doing so), may produce long chains in liquid media, or may grow without a capsule.

Confusion with Streptococcus.

Recently the danger of confusing the pneumococcus with the streptococcus has received renewed attention, and newer methods of differentiation render it extremely probable that such confusion has occurred in the past. An important differential method is that of growing these organisms on agar plates which contain blood (Schottmüller); the *streptococcus* produces a clear zone of hemolyzed corpuscles about its colonies, whereas the colonies of the pneumococcus present a greenish color and produce no hemolysis. *In using this test* Ruediger found a surprising number of pneumococci *in normal* throats, whereas previous work had shown them to be much less common than streptococci.

Resistance.

In spite of the poor viability of the organism *on ordinary* culture media, it is fairly resistant to desiccation and sunlight, especially when imbedded in sputum. *It is* possible that the sputum forms a protective coating about the organism and that the well-formed capsule which it possesses as a parasite, increases its resistance. Like other bacteria, it resists diffuse sunlight better than direct, and in the former may live for as long as fifty-five days in a dried state (Bordoni-Uffreduzzi, cited by Weichselbaum). It has very little resistance to heat, being killed by a temperature of 52° C. for ten minutes. Virulence is lost rather quickly in ordinary culture media, but is retained longer when grown in sputum or media which contains serum or ascitic fluid.

Toxic Properties.

No soluble toxin characteristic for the organism has been obtained, although more or less poisonous substances, some of them of a chemical nature have been described. Presumably the toxic properties depend on the presence of an endotoxin. The pneumotoxin of F. and G. Klemperer was prepared by precipitation with alcohol. The pneumococcus is a pyogenic organism and causes exudates which are rich in fibrin. Occasionally serous rather than purulent exudates are produced. Its toxic action is directed toward various organs, and it is doubtful if any of the tissues of the body are non-susceptible. Some strains are supposed to be more neurotoxic than others.

Susceptibility of Animals.

The susceptibility of animals varies greatly. Rabbits and mice are extremely susceptible and are used as test animals for the identification of the organism. Other laboratory animals have greater resistance, and the pigeon and chicken are almost absolutely immune. In susceptible animals a rapidly fatal coccemia or more or less extensive local lesions are produced, depending on the virulence of the culture, the seat of inoculation and the susceptibility of the animal. In rabbits lobar pneumonia has been produced by inoculation into the pleura, trachea, blood stream or subcutaneous tissue.

Occurrence in the Body.

The pneumococcus is present in the nose, mouth and pharynx of a large percentage of individuals. It is found frequently in the conjunctiva and occasionally in the deeper air passages. That it may reach the stomach and intestines with the sputum is apparent, and it has been found there as the cause of diphtheritic enteritis, a condition which may be followed by pneumococcus peritonitis or general infection.

Entrance into the Lungs.

In the production of lobar *pneumonia it is believed that the* organisms are carried into the lungs by inhalation in most instances. Suspended in droplets of saliva or *mucus, or adherent to foreign particles, they* may be carried fairly deeply into the bronchial tubes. That they ever reach the alveoli by this *means* alone is questioned by many. Two factors would *seem to prevent their* being carried to the alveoli by currents of inspired air: First, foreign particles or infected *droplets are likely* to strike and adhere to the walls of the *respiratory passages* before they have traversed a great length, and from this situation may again be carried out by the action *of the ciliated* epithelium or coughing; the tortuous passages *of the* nose and its hairs and moist surfaces undoubtedly arrest many micro-organisms. Second, the velocity of the inspired air is greatly reduced or is nil by the time the particles *might* have reached the alveoli, a condition which renders their arrest all the more probable. Nevertheless, pneumococci do reach the alveoli, and by some it is supposed that even in health they are carried there more or less constantly and are as constantly destroyed. They have *occasionally* been found in the parenchymatous tissue of the lungs of individuals *who have* died of other than pneumococcal infections or of non-infectious diseases. In order *to* show that *micro-organisms* may be carried into the parenchyma by inspiration Nenninger *allowed* animals to inhale a spray containing *Micrococcus prodigiosus*, and killing the animals after *one-half* hour was able to cultivate the coccus from the base *of the* lungs where only alveoli and the finest bronchial branches were present (cited by Weichselbaum).

Lymphogenous and Hematogenous Infection.

Various other agencies have been suggested by which the cocci may be carried to the parenchymatous tissue. For example, during the forced respiratory efforts which accompany *coughing* they may be carried from the bronchial branches into the alveoli. Or the organisms having reached the bronchi, in some way may be carried through the walls of the latter, perhaps by the leucocytes, and reach the alveoli directly through the lymph chantained from the blood (Beck). That this may be an erroneous belief is suggested by a case of fatal influenza peritonitis reported by Hill and Fisch, in which the latter cultivated the organism in large quantities from the spleen. When the bacilli reach the blood it is probable that they are killed quickly. That metastatic infection is possible, however, either by way of the lymph or blood channels, is shown by the occurrence of influenza meningitis, and, rarely, of influenza peritonitis. It is probable that the ordinary nervous phenomena of the disease are due to intoxication rather than to actual infection of the nervous structures. As to whether the symptoms of so-called intestinal influenza are due to an invasion of the intestines by the bacilli or to a specialized action of circulating toxin seems not to have been definitely settled. There certainly is abundant opportunity for infection of the intestines in cases of bronchial influenza. In the bronchitis of influenza the organisms are found in large numbers in the smaller bronchial tubes, both free and within leucocytes; hence, in searching for the bacilli clinically it should be certain that the sputum examined represents the bronchial exudate. In influenza pneumonia, which usually is of the lobular type, the bacilli, mixed with pus cells and contained in them are found in large numbers in the alveoli. Pure cultures of the bacillus have been obtained from cases of *conjunctivitis*, and they occur not infrequently in middle ear complications which develop during the course of the disease. Influenza conjunctivitis sometimes occurs in epidemic form, particularly in institutions and schools.

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Primary infection takes place in the upper respiratory passages, and the disease readily extends from one part to another as from the nose to the pulmonary tissue. Infection of the ear usually is a complication of pharyngeal or pulmonary infection. Occasionally an influenza conjunctivitis is found without other localization of the infection. "Primary" infection of other organs, as the brain and peritoneum, are metastatic, although the original focus or atrium may not be observed.

Little or nothing can be done in the way of general prophylaxis. Washing of the nose and mouth with antiseptics during an epidemic may reasonably be practiced, but with what success is uncertain. The aged and those of low vitality should avoid exposure to infection, for in them the severer complications, such as pneumonia, are more likely to occur. When influenza conjunctivitis appears epidemically in schools the latter *should* be closed or the infected children excluded.

Immunity, Susceptibility and Recurrences.

Although little or nothing is known concerning the possibility of a natural immunity in man, experience teaches that he is on the whole very susceptible. The belief expressed by some that nursing children *are* less susceptible than older people seems to have some foundation in experience, although it is well known that they are not entirely immune. Influenza is sometimes cited as an infection in which one attack creates a predisposition for a second, but the truth of this is doubted by many who have had extensive experience with the disease. Wutzdorff, in a study of the epidemic which prevailed in Germany during 1891-92, finds in the small number of cases, the irregularity of their distribution, and comparative exemption of rather large districts, reasons for believing that one attack confers a degree of acquired immunity; that is to say, the population had been so thoroughly infected (*durchgeseucht*) during the preceding year or two that comparatively few remained who were susceptible, although the disease itself appeared to be more malignant than in the previous year (cited from Beck). However, the occurrence of second attacks shortly after the first, and the occurrence of repeated infections in some individuals, are sufficiently well known, hence it seems fairly clear that immunity which may result from infection is of short duration. The aged, those of low vitality, and those with pulmonary tuberculosis, have low resistance to infection.

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An ulcer resembling that of soft chancre may be produced in the ape, and also in the cat, by the inoculation of pure cultures. Didey reinoculated man from the ulcers of the cat. When living cultures are injected into *the* guinea-pig (peritoneal cavity, subcutaneous tissue, dura mater), the bacilli are quickly taken up by leucocytes and digested (Himmel). Himmel reports having so decreased the resistance of guinea-pigs by peritoneal injections of lactic acid that they became susceptible to infection. After two or three passages the culture became so virulent that fatal *bacteriemia* was caused without previously lowering the resistance of *the* animal.

In man the infection is transmitted to the *inguinal* lymph glands, but never becomes general.

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PNEUMONIA.

Organisms Causing Pneumonia.

Although there are several types of pneumonia or pulmonitis, no one organism is the exclusive cause of any one type, except perhaps the viruses of syphilis and tuberculosis, and any organism which can cause pneumonia can also set up inflammations in other organs. The following organisms are known to cause acute pulmonitis: *Diplococcus pneumoniæ, Streptococcus pyogenes, Staphylococcus pyogenes*, bacillus of Friedlander (*B. pneumoniæ*), *B. influenzæ, B. pestis, B. diphtheriæ, B. typhosus, B. coli communis,* and *Micrococcus catarrhalis.* The organisms of tuberculosis, actinomycosis, the virus of syphilis and of some other infections cause chronic inflammations of the lungs. Some of these organisms have already been considered and others will be briefly discussed later, in their relation to pneumonia, without, however, entering into details as to the various types of the disease.

Diplococcus Pneumoniæ.

The *Diplococcus pneumoniæ* is the commonest cause of lobar pneumonia, and not infrequently produces lobular pneumonia, and has been found as the only organism in acute interstitial pneumonia (Weichselbaum). Friedlander (1882) found that capsulated cocci were present constantly in the exudate of pneumonia. Such cocci in all probability represented the organism which at present is known as the diplococcus of pneumonia, yet the cultures which he obtained somewhat later showed the characteristics of the organism now known as the bacillus of Friedlander. Fraenkel in 1884 obtained the first named coccus in pure culture, and his investigations, together with those of Weichselbaum and many others, eventually established the independence of the two organisms, and showed that the pneumococcus is the most frequent cause of pneumonia, but that other organisms, including the bacillus of Friedlander, may occasionally produce the disease.

Typical and Non-Typical Strains.

The typical pneumococcus is slightly elongated, and both in the tissues and in culture media it grows in pairs. Typically, also, the pair possesses a capsule which is present constantly in the tissues and may be obtained on certain culture media, as milk and serum. It is non-motile, non-flagellated, forms no spores and stains by Gram's method. Rather scant growth occurs on the ordinary culture media in the form of small colonies which resemble those of the streptococcus, and unless special media are used it usually can not be carried through many generations. When grown in sputum, or on a medium which contains the blood or serum of man or some other favorable animal, it may be preserved for many months in a fairly high state of virulence. By growth at 39° C. virulence is lost rapidly. Strains which are atypical in one of several ways are encountered not infrequently. Such strains may show a low virulence, may grow well at ordinary temperatures (the typical organism not doing so), may produce long chains in liquid media, or may grow without a capsule.

Confusion with Streptococcus.

Recently the danger of confusing the pneumococcus with the streptococcus has received renewed attention, and newer methods of differentiation render it extremely probable that such confusion has occurred in the past. An important differential method is that of growing these organisms on agar plates which contain blood (Schottmüller); the streptococcus produces a clear zone of hemolyzed corpuscles about its colonies, whereas the colonies of the pneumococcus present a greenish color and produce no hemolysis. In using this test Ruediger found a surprising number of pneumococci in normal throats, whereas previous work had shown them to be much less common than streptococci.

Resistance.

In spite of the poor viability of the organism on ordinary culture media, it is fairly resistant to desiccation and sunlight, especially when imbedded in sputum. It is possible that the sputum forms a protective coating about the organism and that the well-formed capsule which it possesses as a parasite, increases its resistance. Like other bacteria, it resists diffuse sunlight better than direct, and in the former may live for as long as fifty-five days in a dried state (Bordoni-Uffreduzzi, cited by Weichselbaum). It has very little resistance to heat, being killed by a temperature of 52° C. for ten minutes. Virulence is lost rather quickly in ordinary culture media, but is retained longer when grown in sputum or media which contains serum or ascitic fluid.

Toxic Properties.

No soluble toxin characteristic for the organism has been obtained, although more or less poisonous substances, some of them of a chemical nature have been described. Presumably the toxic properties depend on the presence of an endotoxin. The pneumotoxin of F. and G. Klemperer was prepared by precipitation with alcohol. The pneumococcus is a pyogenic organism and causes exudates which are rich in fibrin. Occasionally serous rather than purulent exudates are produced. Its toxic action is directed toward various organs, and it is doubtful if any of the tissues of the body are non-susceptible. Some strains are supposed to be more neurotoxic than others.

Susceptibility of Animals.

The susceptibility of animals varies greatly. Rabbits and mice are extremely susceptible and are used as test animals for the identification of the organism. Other laboratory animals have greater resistance, and the pigeon and chicken are almost absolutely immune. In susceptible animals a rapidly fatal coccemia or more or less extensive local lesions are produced, depending on the virulence of the culture, the seat of inoculation and the susceptibility of the animal. In rabbits lobar pneumonia has been produced by inoculation into the pleura, trachea, blood stream or subcutaneous tissue.

Occurrence in the Body.

The pneumococcus is present in the nose, mouth and pharynx of a large percentage of individuals. It is found frequently in the conjunctiva and occasionally in the deeper air passages. That it may reach the stomach and intestines with the sputum is apparent, and it has been found there as the cause of diphtheritic enteritis, a condition which may be followed by pneumococcus peritonitis or general infection.

Entrance into the Lungs.

In the production of lobar pneumonia it is believed that the organisms are carried into the lungs by inhalation in most instances. Suspended in droplets of saliva or mucus, or adherent to foreign particles, they may be carried fairly deeply into the bronchial tubes. That they ever reach the alveoli by this means alone is questioned by many. Two factors would seem to prevent their being carried to the alveoli by currents of inspired air: First, foreign particles or infected droplets are likely to strike and adhere to the walls of the respiratory passages before they have traversed a great length, and from this situation may again be carried out by the action of the ciliated epithelium or coughing; the tortuous passages of the nose and its hairs and moist surfaces undoubtedly arrest many micro-organisms. Second, the velocity of the inspired air is greatly reduced or is nil by the time the particles might have reached the alveoli, a condition which renders their arrest all the more probable. Nevertheless, pneumococci do reach the alveoli, and by some it is supposed that even in health they are carried there more or less constantly and are as constantly destroyed. They have occasionally been found in the parenchymatous tissue of the lungs of individuals who have died of other than pneumococcal infections or of non-infectious diseases. In order to show that micro-organisms may be carried into the parenchyma by inspiration Nenninger allowed animals to inhale a spray containing *Micrococcus prodigiosus*, and killing the animals after one-half hour was able to cultivate the coccus from the base of the lungs where only alveoli and the finest bronchial branches were present (cited by Weichselbaum).

Lymphogenous and Hematogenous Infection.

Various other agencies have been suggested by which the cocci may be carried to the parenchymatous tissue. For example, during the forced respiratory efforts which accompany coughing they may be carried from the bronchial branches into the alveoli. Or the organisms having reached the bronchi, in some way may be carried through the walls of the latter, perhaps by the leucocytes, and reach the alveoli directly through the lymph channels or after having caused infection in the peribronchial lymph glands. Others express the opinion that pneumonia follows blood infection in many or most instances, i. e., that the infection is hematogenous, the cocci having reached the blood in some obscure manner. That the infection may be hematogenous is shown by the occasional occurrence of pneumonia secondary to pneumococcus infection in other parts of the body. These theories are sufficiently reasonable, but, unfortunately, little positive proof of their correctness is at hand.

Conditions for Infection.

Knowing the fairly constant presence of pneumococci in the upper respiratory passages in the normal individual, it seems certain that some unusual condition must arise to precipitate infection of the pulmonary tissue. Concerning the exact nature of these conditions or changes, we have at present little but theories. Manifestly they may rest either with the microbe or the individual, or with both. The pneumococci on the mucous surfaces for some unknown reason may undergo an increase in virulence preceding infection, or more virulent organisms from the outer world, or from pneumonic patients, may be inhaled. The latter condition is an important one in relation to the contagiousness of pneumonia and the development of epidemics. Park and Williams found a larger percentage of virulent organisms in the sputum of pneumonics than in that of normal persons. It is possible that the pneumococcus in being passed from one patient to another undergoes an increase in virulence, similar to the increase which may be obtained by passing bacteria through animals.

Decrease of Resistance.

On the other hand, it is very probable that essential changes take place in the individual, changes which in some may cause the lowered resistance which is so often referred to as a condition for infection. Exposure to cold has long been known as an important predisposing factor, although we continue in ignorance of its precise effects. Experimentally it has been shown that animals are more susceptible to pneumococcus infection after artificial reduction of the body temperature. It is possible that a lowered body temperature may decrease antibacterial activities; that the activity of the bactericidal ferments of the plasma or of the leucocytes may be suppressed, or phagocytosis may be inhibited so that organisms which reach the bronchi and peribronchial lymphatic structures are allowed to proliferate. It is probable that in health the leucocytes continuously pass through the bronchial and alveolar walls where they may englobe foreign particles (coal dust) or bacteria and leucocytes are present on the mucous membranes of the mouth cavity. Following exposure and the reduction of the body temperature, or following the prolonged inspiration of cold air, the activity of the phagocytes may be inhibited so that cocci which reach these surfaces are not ingested and continue to proliferate, or the same conditions may decrease the exudation of the leucocytes from the vessels. It is possible also that the activity of the ciliated epithelium is reduced similarly so that the cocci are not so readily carried to the exterior.

Other Predisposing Factors.

Extreme exposure is not always followed by pneumonia, however, and not all cases of pneumonia are preceded by exposure; many other conditions may predispose to infection, as a lowered resistance due to alcoholism, other infections or to non-infectious processes. That certain local conditions may favor infection is indicated by the frequency with which individuals with chronic tuberculosis of the lungs die of pneumococcus pneumonia, and the development of the disease in areas of hypostatic congestion. Age is of influence. "To the sixth year the predisposition to pneumonia is marked; it diminishes to the fifteenth year, but then for each subsequent decade it increases" (Osler). The cause of these variations is not known, although the rise in later years may be associated with increased exposure.

The conditions which predispose to infection are now the subject of active study in many laboratories, and the commission which the New York Department of Health has established for the study of acute respiratory diseases has already made important observations as to the prevalence and virulence of pneumococci.

Complications.

Many observers have found pneumococci in the blood in a large percentage of the cases, and recent work by Rosenow indicates that the blood is probably infected in all cases at some stage of the disease. This being the case, the frequency with which pneumococcus infections occur in other organs as complications of the disease is readily understood. Pleuritis is present almost constantly, pericarditis frequently, and the peritoneal cavity is invaded not infrequently by way of the diaphragm, with general peritonitis as the occasional result. Endocarditis, meningitis and arthritis are frequent complications. Conjunctivitis, otitis media, cutaneous or subcutaneous infections, intramuscular abscesses and osteomyelitis may develop, and the kidneys and liver usually show acute degenerations.

Diplococcus pneumonia occurs as a complication in typhoid, diphtheria, tuberculosis, influenza, erysipelas and other infections, the organism of the primary infection also being found in the lungs. Not infrequently staphylococci or streptococci, or the bacillus of Friedlander, are found together with the pneumococcus, the latter being the predominating organism.

Prophylaxis.

Prophylactic measures are largely of an individual character and in the main they are suggested by what has been said. One should not come in contact unnecessarily with those suffering from pneumonia. The susceptible should be guarded against exposure; in hospitals pneumonia should be considered as a contagious disease, the cases isolated as such, and the sputum disinfected; expectoration in public places should be limited. To what extent the dust-laden atmosphere which prevails in most of our large cities is a factor in causing pneumonia is unknown. Vaccination is not yet an established procedure.

Immunity and Susceptibility.

It is probable that the susceptibility of man varies greatly. Under equal conditions of exposure not all contract pneumonia, and an individual who eventually contracts the disease may have undergone many similar exposures previously. Klemperer introduced a culture of the pneumococcus which was virulent for rabbits under his skin without suffering more than temporary disturbance.

Recovery.

Recovery seems to indicate an acquired immunity or resistance which is by no means permanent, and often is of very short duration. One may have as many as eight or ten attacks of pneumonia, the intervals between attacks being from three to five years on the average (Griswolle). What the recovery or acquired resistance depends on is unknown. The marked leucocytosis of pneumonia, and the known phagocytic power of the leucocytes for the diplococcus, suggest strongly the importance of the leucocytes for recovery. The serums of convalescents and of immune animals show no increased bactericidal power for the organism, nor are they strikingly antitoxic.

Serum Properties and Opsonins.

Beginning with Fraenkel (1886), many have shown the possibility of increasing the resistance of susceptible animals to the pneumococcus by injecting first dead or avirulent and then virulent cultures; in this way the subjects can be made to withstand many multiples of the minimum fatal dose. Culture filtrates and precipitates (the pneumotoxin of F. and G. Klemperer) have been used for similar purposes. The serum of immune animals, and in some instances of convalescents, has been found to have a protective effect when injected into other animals, and by some a curative effect is claimed when the serum is given shortly after infection. Mennes made the interesting observation that "normal leucocytes only become phagocytic toward pneumococci when they are lying in the serum of an animal immunized against this bacterium" (Muir and Ritchie). This action may have been due to the effect of the opsonins which Wright and Douglass have shown to be essential for phagocytosis of the pneumococci. According to Neufeld and Rimpau, antipneumococcus serum is not bactericidal, but through the influence of bacteriotropic substances (opsonins ?) which it contains renders the cocci more susceptible to phagocytosis.[1] Likewise, Park and Williams found antipneumococcus serum from the sheep to be protective for mice and to stimulate phagocytosis. The correspondence between bacteriotropic action and protective power was variable, however, so that it did not appear certain that the protective power of the serum was due entirely to its influence on phagocytosis. We are, of course, not sure that events in the animal body correspond with those in the test glass.

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[1] This bacteriotropic substance, according to Neufeld, differs from the opsonin of Wright in that it is not destroyed by low degrees of heat.

Serum Therap and Agglutination.

Some of the serums which have been prepared have been used therapeutically in man. The results have not been sufficiently satisfactory to put them on a good basis, although some favorable reports have been given. The serum of pneumonic patients shows an increased agglutinating power for the pneumococcus. The maximum is reached at or near the time of crisis, but rarely has a higher value than 1 to 50 to 1 to 60 (Neufeld, Rosenow). It disappears quickly after recovery. In immunized animals the agglutinating power may be pushed to much higher limits. Not all strains yield agglutinins equally, and not all are agglutinated equally by the same serum. According to Collins, pneumococci fall into different groups, depending on their agglutinating properties; the same author determined the presence of group agglutinins in an immune serum. Neufeld states that avirulent strains were not agglutinated by the serum of pneumonic patients.

OTHER INFECTIONS BY THE PNEUMOCOCCUS.

Complicating infections by the pneumococcus during the course of pneumonia were mentioned above. They may occur by way of the lymph channels, as in pleuritis, pericarditis and peritonitis (through the diaphragm), by contiguous extension, as in infection of the bronchi, nose and, perhaps, the middle ear, or as metastatic infections following the invasion of the blood stream by the organisms. It is undoubtedly in the last named manner that meningitis, endocarditis, arthritis, muscular and subcutaneous abscesses arise.

Mode of Infection.

Other infections by the pneumococcus occur independent of the existence of pneumonia. Such conditions are alveolar abscesses, conjunctivitis, dachryocystitis, serpent ulcer of the cornea, inflammation of the middle ear, meningitis, enteritis, rarely peritonitis, and pneumococcus septicemia which may be complicated by infection in various organs. The eye is exposed to infection from without and the ear from the pharynx. The meninges may be infected by way of the middle ear or the nose, or the organisms may gain entrance through the circulation from a primary focus in another organ, perhaps an undiscovered focus. Infection of the peritoneum may follow an intestinal infection; a pure pneumococcus infection of the peritoneum in the absence of pneumonia is extremely rare. Pneumococcus infections of the eye, ear, intestines and peritoneum are likely to be accompanied by other organisms.

Pneumococcus conjunctivitis occurs in epidemic form and the same precautions should be taken to limit it as for the limitation of influenza conjunctivitis.

Serpent ulcer of the eye, a progressive phagedenic process in the cornea, has the pneumococcus as its essential cause, although other organisms may be present. Roemer treats the condition with an antipneumococcus serum and claims that he is able to arrest the process if the treatment is begun sufficiently early. The serum is injected beneath the conjunctiva.

Clinical Reports

A CASE OF ACCIDENTAL ESERIN (PHYSOSTIGMIN) POISONING WITH RECOVERY.

B. F. STEVENS, M.D.
EL PASO, TEXAS.

Patient.—A woman, aged 28, because of a mistake in telephoning a prescription, received a dose of two grains of eserin sulphate hypodermically, instead of a fiftieth of a grain as was intended.

History.—I had operated on this patient four hours previously for a double pyosalpinx, and gave the eserin to aid in passing flatus. An hour before receiving the eserin she had been given morphin, 1/8 grain, with atropin, 1/200 grain, for pain. Within two or three minutes after receiving the eserin, she turned purple and her bowels moved profusely and involuntarily. Respirations became shallow, the trachea, pharynx and larynx filled with mucus, and the pulse became imperceptible, even over the carotids. She remained unconscious for about twelve hours.

Treatment.—The following drugs were given hypodermically in divided doses: Atrophin, 1/10 grain; nitroglycerin, 1/30 grain; strychnia, 1/10 grain; brandy, a dram, and aromatic sulphuric acid, a dram; 1,200 c.c. of normal salt solution was also given subcutaneously around the breasts. She was surrounded with hot water bottles and given plenty of fresh air, the tongue being drawn forward with ordinary vulcellum forceps. She was catheterized every half-hour.

Recovery was probably due to the fact that she had received a small dose of atropin and morphin a short time before the eserin was given. Potter says that immense doses of eserin may be given without harmful effect if preceded by even minute doses of atropin, which is the physiologic antidote. The salt solution, no doubt, was of great benefit, because eserin is eliminated almost entirely through the urine. A mild enteritis followed, but this persisted for only a short time.

OBSTRUCTIVE JAUNDICE CAUSED BY A ROUND WORM IN THE COMMON BILE DUCT.

J. G. HILLEARY, M.D.
DUBOIS, PA.

The patient was a bright, well-developed boy, aged 10, who had never been confined to bed on account of sickness in his life. I was asked to see him on the eighth day of his illness. Besides being intensely jaundiced, his trunk and limbs were covered with large patches of urticaria, which caused him great annoyance from the burning and itching. Nausea and vomiting, with loss of appetite were present throughout the attack. The tongue was coated and the mouth dry. Bowels were constipated; stools clay colored, pasty and fetid. Temperature was normal; pulse 60. The lungs and heart were normal; the abdomen was normal except for pain and tenderness over the region of the gall bladder.

Having lately read an abstract of an article in the October number of the American Journal of the Medical Sciences, by W. Epstein, on the diagnostic significance of strangulation marks on round worms, and with the cause of the obstructive jaundice in this child not clear, coupled with a history of the passage of two round worms a few months previously, I made a probable diagnosis of a round worm in the common duct. Calomel and santonin were given, and in ten hours the worm was passed with complete relief of the symptoms. The worm showed a distinct strangulation mark two inches below the head.

As such markings are never found normally, I think it is safe to say the worm was the cause of all the trouble in this case.

SAFETY PIN SAFELY PASSED BY A CHILD OF ELEVEN MONTHS.

L. W. LITTIG, M.D.
IOWA CITY.

On October 19, Dr. W. D. Phillips, Victor, Iowa, consulted me regarding an 11-months-old baby who had accidentally swallowed an open safety pin, one and one-eighth inches in length. I was inclined to locate the pin with the *x*-ray and to at once remove, if seen in the stomach, but it was decided to wait for trouble and then to operate without delay. On October 24, a few hours less than five days after the pin had been swallowed, it was passed by the child. No inconvenience at all was suffered and no special treatment was given. The parents lived in the country, and did not bring the child for *x*-ray examination; hence, there was no opportunity to observe the progress of the pin through the intestine.

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THE DIAGNOSIS AND PROGNOSIS OF PARALYSIS AGITANS.

The art of diagnosis requires a knowledge not only of the main types of a given disease, but also of its atypical forms, the so-called *formes frustes* of French writers. In some diseases easy of recognition in their typical form, atypical forms are common and difficult of recognition, and of no disease is this more true than of paralysis agitans. According to Erb's observations, paralysis agitans presents itself in an atypical form in about 20 per cent. of all cases, and Oppenheim believes that this estimate is too low rather than too high. Under such circumstances, a knowledge of the atypical forms of this disease is a necessity, as the condition is not uncommon.

Oppenheim[1] has recently expressed his views regarding this disease in a masterly paper in which he pays especial attention to the diagnosis of masked cases. Paralysis agitans without tremor, first described by Charcot in 1875, is stated to be quite common. In some instances the tremor is latent, and may be elicited by active movements, or by plunging the limb into cold water. In connection with tremor Oppenheim describes a procedure which produces what he calls false ankle clonus. The foot is strongly flexed dorsally and held in this position for some time; on release a rhythmical tremor may result, and is quite characteristic of paralysis agitans. In typical cases without tremor the diagnosis usually may be made on the general attitude of the patient, the muscular stiffness and the propulsion and retropulsion. The cases most difficult of diagnosis are those in which the disease is just beginning, and in which only one side or one limb is involved. Oppenheim states as a general proposition that a slowly developing stiffness and unwieldiness in the limbs of one side occurring in an old individual is generally paralysis agitans. The slowing of the movements in these cases and the stiffness usually begin first at the distal parts of the extremities, so that special attention must be devoted to the finger and toe signs if early diagnosis is to be made. In the fingers difficulty in flexing or extending the fingers one after another may be noted early, or abduction and adduction may be difficult. Changes in the toes are more difficult to detect, as the normal mobility of these structures varies a great deal. In unilateral cases, however, Frank has described a valuable diagnostic sign. This consists in the fact that any attempt to move the toes on the affected side results in movements in the toes of the non-affected side; the reverse is not the case. In some cases changes in the handwriting are of value in connection with other tests. Oppenheim lays stress on the tendency of these patients to write slowly and to construct much smaller letters than they formerly did.

Various early or premonitory signs are mentioned which may render diagnosis easier in doubtful cases. Rheumatoid pains, gastric disturbances, salivation and hyperidrosis are mentioned as not infrequently preceding paralysis agitans or accompanying the early stages. Bladder and rectal disturbances are rarely seen. Besides the ordinary difficulty of gait, the trouble in starting and stopping, an exaggeration of the former is occasionally seen. In some instances, the patient seems totally unable for some time to start walking, even when he desires to pass merely from one room to another. He stands as if rooted to the spot, and appears quite helpless. Oppenheim thinks that in these instances there is a strong psychic element at work.

So far as the prognosis of this disease is concerned, Oppenheim takes a much more optimistic view than formerly. He still states that he has never seen cure result in this condition, but he also states that under proper conditions he has seen the progress of the disease apparently delayed for a considerable period of time, and he has seen severe cases transformed into mild ones. The prognosis, of course, is most favorable in those cases in which the condition is recognized early, and the recognition of the atypical forms is necessary for this.

FOOTBALL AND ITS DANGERS.

Football is not as bad as the Fourth of July. In the first place it costs only ten to fifteen per cent. as many lives and fewer eyes; furthermore, the fun lasts three months instead of two or three days, so we get more per boy. Yet in spite of this evident innocuity, the popular protest against the game, as played at present, seems to be stronger and more general than ever before. Not that the game is waning in popularity, for as usual the attendance at the big championship games is limited to the number of people the grounds will hold, plus as many more as can get in. We hear a great deal about lessening the danger of football by making the game more open, and substituting end runs, trick plays and punting, for the steady hammering down the field a yard or two at a time, with a unanimous pile-up at each down. Interesting as the open game is to the spectator, the idea that the only real football is the line-bucking, bone-breaking game seems to have a firm hold. This was well illustrated by a recent championship game between two of the great universities of the Middle West. One coach had developed the open game to an unusual extent, not with any idea of "elevating the stage," but simply because his team was best adapted to that style of game. The team met another which limited its efforts to steady line plunging, and the open game won. The ball was on the opponent's side of the field the majority of the time, the line-plunging team made fewer yards than were made by the open game of the winner, and the team playing the open game did not have to take out a man for injuries during the entire game; and yet, almost unanimously the press and the public insisted that the defeated team played the better game, simply because it had gained more ground by line bucks than had its conqueror. The public verdict seems to be that five yards made by line bucking is worth more than ten yards made through open plays. While the public attitude is such it seems improbable that any reformation in football is near at hand.

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[1] Deutsche Med. Woch., 1905, vol. xxxi, p. 1705.

From the standpoint of the educator, one of the greatest dangers of football is the degree to which it absorbs the student's interest. For the first two months of every school year the entire mass of students is concerned chiefly with the football prospects of the college team. As for the athlete himself—even if he is a *bona fide* student and not simply hired for his football ability—he is being crammed full of signals, new plays and "dope" of all varieties until there is little time or cephalic capacity left for anything else. In those colleges where a fair class-room standing is required by an unappreciative faculty, the football manager finds it necessary to provide tutors for his team in order to keep them on the eligible list. The whole student body is in such a state of excitement over football, to which the daily papers add in every possible way, that the many other interests that go to make up a normal college life are neglected hopelessly in the very beginning of the year's course.

Little good can be claimed for football on the grounds of physical training, either. The men on the teams are the very ones whom Nature has endowed superabundantly with physical capacity, but on them the physical director bends most of his energies, while the average student is left to get his physical development by yelling from the bleachers. The Rugby game, as Americanized, can never be a popular game in which all the members of a school can participate. To withstand the violence of hard tackling, and the crush of line plays, one must be in the best of training, and after a hard game the novice, if he lasts through, finds himself sore and weary for many days.

What is needed is a game that can be played by the majority of the students, without going through a prolonged course of training and preparation, and which is suitable for the coolness of the autumn and early winter days. Lacrosse has often been suggested as a substitute for football, and as a game that is both interesting to the spectator and full of good wholesome exercise it can not be surpassed. It might well form a part of our college sports and in a few colleges it does so, but there seems to be one obstacle to its general adoption—it requires a high degree of dexterity on the part of the player not soon acquired by a man not trained in athletics. Like baseball, it requires for satisfactory playing that it be taken up early in life and followed continuously, but still a certain degree of success and much pleasure may be obtained by the average student taking up the game for the first time after entering college.

There seems a much better prospect for the Association football game, and we welcome the effort that is now being made in several colleges to introduce it into their lists of sports. The use of the hands being eliminated, there are none of the dangers of tackling, and there are no mass plays. The ball is in sight always and in constant motion, features that appeal to the onlooker. Being a game that the most awkward novice can play after a fashion, and that still permits of high development of skill and of team play, it should offer opportunities to all classes of students. Such a game should be played within the circle of the individual college, between classes, departments, fraternities, dormitories and the other innumerable divisions of the student body. Without the strife incident to intercollegiate athletics there would be no more heard of professional coaches at large salaries, of professional players and other unacademic accusations. The game would then do far more for the physical welfare of the students as a whole, and there would be much less bitter feeling between sister institutions.

NEW YORK HEALTH BOARD FROM A GERMAN VIEWPOINT.

We have grown so accustomed to criticism from at home and abroad on our municipal government, we have come so to expect unfavorable comparisons between ourselves and other countries in this respect that we experience a shock of pleasurable surprise when we hear that a municipal department in one of our great cities is held up to general admiration. Still more gratifying is it to hear that the praise comes from Germany, from Berlin itself.

At a meeting of the Berliner Medizinische Gesellschaft,[1] Professor Wassermann, in a paper on "Municipal Hygiene," spoke of the Department of Health of Greater New York as a model to German cities, especially in the direction of public control of infectious diseases. Professor Wassermann pointed out the undeniable fact that the general practitioner has neither time nor authority sufficient to enable him to control the infectious diseases especially among poor, ignorant people. It is this function which the Department of Health of Greater New York has assumed without thereby encroaching on the rights of the physician. The two diseases which Wassermann chose to illustrate New York's methods are diphtheria and tuberculosis, and incidentally his comments throw light on the methods in use in German cities, which, apparently, are far behind New York and a few other cities in such matters. Although in many respects the methods in use in New York are common to our large cities, yet in completeness of detail they are unequalled, so far as we are aware, anywhere, and it may be worth while to outline them here, lest it should be said that foreigners do us more justice than we do ourselves.

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[1] Cbl. f. Bakt. Ref. Aug. 28, 1905, p. 45.

Professor Wassermann describes, as he sees it, what occurs in New York when a physician visits an indigent case of tuberculosis. The first physician fills out a card which is sent to the Department of Health, stating the hygienic and social surroundings of the patient, and answering "yes" to the printed question whether or not he desires an inspector to visit the patient. The inspector—a physician employed exclusively in the control of tuberculosis—visits the patient, decides whether he may be left at home or must be sent to a hospital. In the former case, if he thinks necessary, he places him under the supervision of one of the department nurses for the tuberculous poor, who sees his directions as to care and precautions against infection are carried out. Meanwhile, elaborate statistics are in course of compilation, so that the department is gaining "an extraordinarily clear picture of the distribution of tuberculosis in the city, the existing sources of infection," etc. If a tuberculous patient dies at home, a placard is fixed on the door of the apartment stating in different languages (including Hebrew and Chinese) that tuberculosis is a communicable disease, and that the apartment must not be thrown open until it has been thoroughly disinfected.

The free examination of throat cultures for physicians, and the administration of antitoxin free to poor patients is so common a function of municipal health departments for us that we are surprised to find Professor Wassermann speaking of it as something extraordinary. In this respect New York does not differ from other cities, but we doubt whether many can boast of so careful and complete a system of supervision of diphtheria and other infectious diseases. As soon as a positive bacteriologic diagnosis of diphtheria has been made, the department notifies the principal of the school attended by the child. A list of quarantined patients, with their addresses, is furnished daily to schools, institutions, settlements, etc., together with the names and addresses of those just released from quarantine. A sanitary inspector, and if necessary, a department nurse, visits each quarantined case to make sure that the proper precautions are being observed. Disinfection is not performed nor the quarantined removed until two bacteriologic examinations of the throats of the patients and other members of the family have given negative results.

Professor Wassermann emphasizes New York's enormous task in combating disease among the thousands of ignorant immigrants from all parts of the world yearly landed in her midst. It is certainly a matter of pride that in the face of these difficulties she has shown herself able to perfect a system superior to that of cities which have not such enormous problems to solve.

TRANSPLANTATION OF ORGANS.

An interesting illustration of the application of clever surgical work to experimental physiology and pathology is the recent work of Carrel and Guthrie[1] of the University of Chicago. They have successfully removed a kidney from a dog and transplanted it into the neck of the same animal, uniting the renal artery with the carotid artery, the renal vein with the jugular, and the ureter with the esophagus. The circulation was not impeded by the formation of thrombi, and was completely re-established in a short time. In this new location the transplanted kidney secreted urine about five times as fast as the normal one. The constituents of the urine were the same, but in composition the chlorids were increased, while the organic sulphates, pigments and urea of the normal kidney were greater. The transplanted kidney examined some days following the operation was larger and darker in color than normally and the circulation distinctly increased. They claim this as the first successful transplantation of kidney on record.

They also successfully reversed the circulation in the thyroid gland of a dog by removing the gland and then replanting it, suturing the blood vessels in such a way that the blood entered the organ through the vein and left it through the artery. Forty-seven days later the replanted gland was normal, the only change being a slight increase in size.

This work is suggestive, not only from the standpoint of physiology, but particularly from that of therapeutics. It is in close relation to the work done by Cristiani[2] on transplantation of thyroids from one animal to another of the same species, and also to that of a different species. He showed that successful thyroid transplantation could be done with ease in animals of the same variety, but his results were not so good when transplantations were made from one animal to another of a different group, this depending on their relation in the animal scale. For instance, a graft from one class or family of animals to another always fails; from one order to another, as from dog to cat, usually fails; while from one variety to another, as between varieties of birds or of dogs, the result is usually successful. He did not unite the vessels, as do Carrel and Guthrie, and it is possible that with this improved technic the results may be much more successful.

Cristiani has promised experiments on transplantation of human thyroids into monkeys. This work is of great significance, because of the possibility of furnishing a permanent remedy for disease dependent on the loss of thyroid secretion, such as myxedema. This idea may be applied to other diseases also; thus in human diabetes one may consider the possibility of transplanting a portion of the pancreas from the anthropoid apes to the diabetic. It may even be possible at times to obtain human organs for this purpose, as in case of persons killed accidentally or dying suddenly from some other cause. The same question arises in connection with diseases of the suprarenal, though it appears that so far all attempts to transplant this organ have failed. Then there is the suggestion that eventually it may become possible to replace a permanently diseased kidney with a normal one. While many of these therapeutic possibilities are as yet more or less remote, the operative results obtained by Carrel and Guthrie show that a new way has been opened for the experimental study of many problems in glandular physiology.

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[1] Science, Oct. 13, 1905, "Functions of a Transplanted Kidney"; also Oct. 27, "Extirpation and Replantation of the Thyroid Gland with Reversal of the Circulation." See also the article by Carrel in this issue.

[2] Journal de Phys. et Path. Gén., vol. iii, p. 200, also vol. vi, p. 476.

THE JOURNAL OF BIOLOGICAL CHEMISTRY.

The development of medicine is along lines that were hardly dreamed of a quarter of a century ago; and not the least important of these is that which is known as biologic chemistry. Until now there has been no journal in the English language devoted to the subject. Under the circumstances, therefore—and this in spite of the fact that we have in this country ten times more medical journals than can be legitimately supported—we welcome a new one that has just appeared—the *Journal of Biological Chemistry*. It will be devoted to recording progress made in the biologic sciences, chemical in nature, and consequently that particular branch of science that now seems to promise so much for medicine. The editors are J. J. Abel of Baltimore and C. A. Herter of New York, and they will be assisted by an exceptional corps of collaborators. The *Journal of Biological Chemistry* should receive the encouragement of every physician who is interested in that branch of medicine.

PHYSICIANS' RESPONSIBILITY IN THE CRUSADE AGAINST PATENT MEDICINES.

As its share in the present concerted efforts to curb the nostrum evil, the main task of the medical profession of course must be to eliminate the objectionable features of the "ethical proprietary" trade. But it must also recognize its responsibility in the fight against the patent-medicine abuse. The lay publications that are exposing so thoroughly all the evils of the nostrum traffic can be depended on to continue their crusade, but they also must have medical support, if genuine reform is to be ensured. Further, in order to enjoy the benefit of a really free press or to secure pure food and drug laws, the newspapers must be constrained by public opinion to repudiate nostrum advertisements containing the enthralling "red clause." To this the medical societies should give immediate attention, as the time is at hand when advertising arrangements are made for the ensuing year. Resolutions do some good, and especially do they encourage the brave lay journals that are taking the lead in this reform. *Collier's Weekly* published November 18 a list of nine medical societies that have endorsed its efforts, and urged the societies to unite in some plan of action. The most effective method of persuading publishers to refuse contracts that throttle free speech is the appointment by local medical societies of committees to visit the publishers. The personnel of these committees should be adjusted to the object of bringing to bear the greatest possible pressure by persons of amiable dispositions, intimate acquaintance, respected standing and enlightened minds. These committees, armed with facts and knowledge of conditions as only medical men can be, will, if tactful, be almost irresistible, and should play a foremost part in abating a grave peril. Certainly the patent-medicine manufacturers will cry that we are interested from selfish motives, but this should not deter our action in the least degree. In the main, the public will discount that drowning plea of all monsters. At any rate, we should do our plain duty, being confident that such conduct will not long be misjudged. Only the other day a very prominent newspaper owner asked why physicians do not take the lead in informing the public of the real dangers of the patent-medicine traffic. He asked who were to inform the public and editors of newspapers of the physical harmfulness of the indiscriminate use of patent medicines if not physicians. It seems, then, that we are expected to act, and that other forces of reform are depending on us. This was emphasized by Mr. Bok's letter, which we published some months ago.[*] In addition to the passage of resolutions and the appointment of committees, our societies should aid in the wide distribution of the literature of the crusade, and should present the real reasons why patent medicines should not be used.

THE SUPERVISION OF HOSPITALS.

Following the lead of certain foreign critics who some little time since charged financial extravagance in the construction and the management of quasi-public hospitals in New York City, action has been urged recently to bring about some needed reforms. It would appear that the self-perpetuating lay boards of control of some of these hospitals are largely responsible for the evils of which complaint was made, and it is a natural consequence of excessive expense in building and management that such institutions must be seriously curtailed in usefulness to the general public. As adjuncts to charity they must necessarily be a failure to a very great extent. While we are apt to be suspicious of public control of such institutions in our large municipalities, a certain amount of it might be an excellent thing and would be only a reasonable offset to the exemption from taxation which such institutions enjoy. It is a rather striking coincidence that while the City and County Hospital at St. Paul was being held up—at a New York meeting of physicians—as a model of comparative excellence in the particulars in which the New York hospitals were open to criticism, the mayor of the twin city, Minneapolis, had just been calling attention to another hospital evil that is not peculiar to any one municipality. That is, the existence of private hospitals, conducted for gain or advertisement and uncontrolled by any special higher authority. It would appear from his remarks that special evils or scandals have brought such into prominent notice within a recent period in his city. That this is not a common occurrence is due to—

the fact that so many of these establishments carefully avoid any publicity. They are sometimes conducted by off-color physicians, sometimes by typical quacks and sometimes are respectably conducted by reputable medical men. In the latter case they generally have a corporate existence and a sort of quasi-public character, and, apart from a certain commercialism in their management, are unexceptionable. Not making pretenses to being charitable institutions their financial management is not open to public criticism. Nevertheless, if we are to insure against abuses, a certain public control and inspection is advisable and—if we are to reach all the disreputable "homes" "retreats," etc., which advertise in the daily press—is absolutely necessary. A public sanction or certificate of character based on rigid inspection laws would be a damage to no reputable institution. That there is a class of institutions requiring police surveillance can not be denied. They exist in every city, and the borderline between them and more respectable institutions may not be as distinct to the public as is desirable. While we do not accept as generally correct the allegation of the Minnesota mayor that reputable physicians connive at the unlawful practices of the shady practitioners, there are evil possibilities in the existence of these institutions that we should be on our guard against as a profession, and a reform in this regard should be supported if not originated among ourselves. If a layman can point out the evil of unregulated establishments of this kind it is an indication that public opinion is getting ripe for a reform.

LAVAGE FOR THE RELIEF OF VOMITING.

Vomiting results from such a diversity of causes that it is not to be expected that one measure will suffice for its relief under all conditions. Of course, the fundamental indication is to remove, when possible, the underlying or exciting factor, but not rarely the gravity of the symptom does not permit of delay, but demands speedy relief, either by palliation or by other means. One of the most distressing secondary phenomena of vomiting is the thirst resulting from the repeated loss of fluid. To compensate for this loss and to relieve this thirst, injection of large amounts of water into the bowel or the administration of small amounts by the mouth has been practiced, but neither of these methods always succeeds. An old and valuable household remedy is the free ingestion of water as hot as can be taken—with a pinch of salt, for flavor, if desired. It is popularly said that the water will either correct the stomach or will make vomiting easy and less unpleasant if it must continue. Attention is again called to the value of this procedure by Sir William H. Bennett,[1] who has adopted the suggestion made and put into practical effect by a patient, namely, the ingestion of ordinary cold or tepid water or other perfectly unirritating fluid in as large amounts as the patient desires. The vomiting may and is likely to persist, but the stomach is gradually washed out automatically and the patient is made more comfortable. A number of illustrative cases are reported, in some of which the vomiting itself seems to have been controlled.

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[1] Lancet, July 8, 1905, p. 67.

Medical News

CALIFORNIA.

Bequest.—By the will of the late James C. King, Chicago, $10,000 is devised to a hospital in Pasadena, Cal., which the testator believed to be a worthy enterprise.

Hospital Incorporated.—The Oakland Central Hospital has been incorporated in Oakland by Drs. William D. Huntington, Oakland; T. A. Williamson; Edward R. Sill, Alameda; Robert T. Stratton, Alameda, and Chauncey H. Wilder, Alameda, with a capital stock of $75,000.

Will Not Change Meeting Place.—At a meeting of the San Bernardino Medical Society November 8 an attempt was made to change the by-laws so that Redlands should hereafter be the permanent headquarters of the society instead of San Bernardino. The motion, however, was voted down by the older members of the society with the assistance of the members from San Bernardino.

Charge Against Physician Dismissed.—Dr. W. Fred Stahl, Los Angeles, charged with illegal practice of medicine, was dismissed by the jury November 10. It was alleged that Dr. Stahl did not hold a license for practicing medicine from the state board of medical examiners, but the discharge of the prisoner was based, it is stated, on the contention of his attorney that he had applied three times to the state board to take the regular course, and that his application had been neglected each time.

Opposed to Lodge Practice.—Shasta County Medical Society has manifested its opposition to contract or lodge practice by adopting the following resolutions:

> Whereas, It is the sense of this body that contract society and lodge practice as now performed is detrimental, degrading and humiliating to the medical profession, therefore be it
>
> *Resolved*, By the Shasta County Medical Society in regular meeting assembled, that no member of Shasta County Medical Society be permitted to enter into contract relations with such society; and be it further
>
> *Resolved*, That no physician in the employ or such societies be eligible to membership in the Shasta County Medical Society. Be it further
>
> *Resolved*, That no member of the Shasta County Medical Society be permitted to consult with any physician following such contract practice.

Personal.—Dr. Reuben M. Bonar, Santa Rosa, has been appointed a member of the medical examining board for pensions in that city, vice Dr. Melville M. Shearer, deceased.——Dr. John H. Love, Ventura, was stricken with cerebral hemorrhage November 2.——Dr. Theodore D. Kellogg, Chino, was appointed medical superintendent of the San Bernardino County Hospital, vice Dr. Johann H. Meyer, removed, but resigned, and Dr. A. J. Aldridge has been appointed temporary medical superintendent.——Dr. John S. Hogshead, Laytonville, has been appointed physician of Mendocino County, vice Dr. William N. Moore, committed to the State Hospital for the Insane.——Dr. Solon Briggs, Los Angeles, has returned from the Atlantic Coast.——Dr. August Liliencrantz, Oakland, has resigned as a member of the board of health, and Dr. Charles A. Dukes has been appointed his successor.——Dr. Fred W. Colman has been appointed health officer of Lodi.——Dr. Spurgeon F. Priestly has been appointed health officer of Stockton.——Drs. Robert F. Rooney, Auburn, and Martin Schnabel, Newcastle, have been elected physicians of Placer County.——Dr. Jackson L. Martin has been made a member of the Fresno health board.——Dr. William J. Walsh has been appointed coroner of San Francisco County, vice Dr. Thomas B. W. Leland.——Dr. Granville MacGowan, Los Angeles, has been removed to his home after a successful operation for appendicitis.

DISTRICT OF COLUMBIA.

Milk Dealers Fined.—Three milk dealers who sold milk from cows which had been allowed to feed and drink from the sewer and marsh adjacent to the Smallpox Hospital, were arrested and tried. One was discharged and two were fined $20 each.

Health of the District.—During the week ended November 4, 118 deaths were reported, 64 white and 54 colored. During the same period 144 births occurred, 100 of which were white and 44 colored. There were 9 stillbirths, 3 white and 6 colored. At the close of the week there were under treatment 44 cases of diphtheria, 16 of scarlet fever, 160 of typhoid fever and 8 of smallpox.

ILLINOIS.

Cornerstone Laid.—The cornerstone of the John Warner Hospital, Clinton, was laid with simple formalities November 8.

Personal.—Dr. James H. Davis, Atwater, has returned after three years in Germany.

Diphtheria.—Reports to the State Board of Health show that cases of diphtheria are reported in 39 cities and towns, in 26 counties, from Cook County on the north to Alexander County on the south.

Epidemic Jaundice.—An epidemic of catarrhal jaundice, the cause and nature of which is obscure, is reported throughout the state, especially in Mount Pulaski and Rushville. The State Board of Health has instituted an investigation.

Valley Physicians Meet.—The eighty-first semi-annual meeting of the Fox River Valley Medical Association was held in Aurora, November 13. Dr. J. Forrest Bell, Elgin, was elected president, and Dr. Albert A. Fitts, Batavia, vice-president. The annual meeting will be held in Elgin in May.

Chicago.

Druggist's License Revoked.—The pharmacy license of Paul Vito, owner of two drug stores on the South Side, has been revoked by the State Board of Pharmacy on account of two convictions for the sale of cocain.

Bequests.—By the will of James C. King $10,000 is devised to the Chicago Home for Incurables and $20,000 to the Presbyterian Hospital.——The late Louis Schroeder has bequeathed $1,000 each to the Michael Reese Hospital, Alexian Brothers' Hospital and the German Hospital.

Personal.—Dr. Emma A. Hackett, resident physician at Hull House, is seriously ill from an infection of the hand due to an operation wound.——Dr. Engelbrecht Nelson has returned from abroad.——Dr. Albert H. Andrews has been elected professor of otology and rhino-laryngology in the Chicago Eye, Ear, Nose and Throat College.

Fraud Order Issued.—A fraud order against "Professor" Howell has been issued by the postoffice department. It is alleged that this individual, on receipt of the date of the birth of customers, sent to each a horoscope, telling him that he was suffering from a dangerous nervous disease. For the cure of this malady he sold a medicine for $4.80. Horoscopes of twelve varieties were distributed.

Urological Election.—The Chicago Urological Society, at its annual meeting, October 26, elected Dr. William L. Baum, president; Dr. Gustave Kolischer, vice-president, and Dr. J. Allen Patton, secretary. This society meets the last Thursday of each month excepting July, August and September. All regular practitioners in good standing in Cook County who are interested in medical or surgical urology are eligible to membership and welcomed at meetings.

Deaths of the Week.—During the week ended November 18, 510 deaths were reported, equivalent to an annual mortality rate of 13.35 per 1,000. The number of deaths was 31 greater than during the corresponding week of 1904, and 41 greater than for the preceding week of 1905. Pneumonia, for the first time this season, leads the death causes with 77, followed by consumption, with 70; nephritis, with 41; violence, including suicide, with 37; heart disease, with 36; cancer, with 31, and nervous diseases, with 21.

INDIANA.

Contagious Diseases.—Scarlet fever is reported at Windfall. Ten cases of typhoid fever are reported at Cambridge City.

Ten Instead of One.—In the Indiana news, November 18, it was announced that James Laboyteaux had given $1,000 for the erection of a hospital at Muncie, and that, if necessary, he would double his gift. Mr. Laboyteaux' original gift was $10,000, which he has promised to double, if necessary.

Personal.—Dr. Richard Schillinger has been elected mayor of Richmond.——Dr. Ebenezer P. Weist, Elwood, who soon leaves for Oklahoma, was given a dinner by the physicians of Newcastle November 10.——Dr. Isaac N. Cochran has been elected mayor of Delphi.——Dr. Oliver G. Mercer, Reelsville, has been appointed local surgeon of the Vandalia Road, vice Dr. Joseph F. Gillespie.

October Mortality and Morbidity.—The reports to the State Board of Health for October show that typhoid was the most prevalent disease and rheumatism the next most prevalent. Bronchitis, influenza and pneumonia prevailed extensively. On the whole, however, October was more healthful than the corresponding month last year, and also more healthful than September. The total number of deaths reported was 2,681, equivalent to an annual death rate of 11.9 per 1,000. Of these 426, or 16.9 per cent., were under 1 year of age, and 659, or 26.2 per cent., were 65 and over. Consumption deaths numbered 307; typhoid, 152; diphtheria, 78; scarlet fever, 5; whooping cough, 14; pneumonia, 138; diarrheal diseases, 167; cerebrospinal meningitis, 29; influenza, 4; puerperal fever, 9; cancer, 100, and violence, 155. Pneumonia showed a decided increase over September, and there were 30 more deaths from this disease than in the same month last year. Of the tuberculosis deaths 124 were males and 283 females. Of the males 22 were married in the age period of 18 to 40, in the prime of life, and they left 45 orphans under 12 years of age. Of the females 54 were in the age period of 18 to 40, in the prime of life, and left 111 orphans under 12 years of age. This disease invaded 271 families and tore the parents from 94 homes, making in all 156 orphans.

KENTUCKY.

Fraud Order Issued.—The postoffice department has issued a fraud order refusing the delivery of mail matter to the French Capsule Company, Covington, and to Dr. Ernest E. Schmidt of that city, who are alleged to be using the mails to promote the sale of a drug contrary to law.

Jefferson County Referee.—Dr. William H. Wathen, for a number of years county referee for the State Board of Health, has resigned, and Dr. William Bailey has been appointed in his stead. The executive committee, acting for the board, with Dr. Chester Mayer, temporary secretary, spread resolutions on its minutes expressing satisfaction at Dr. Wathen's work. Dr. Wathen, being dean of the Kentucky School of Medicine, felt it best that he should not continue to act in a dual capacity.

MARYLAND.

Personal.—Dr. Gordon T. Atkinson, Crisfield, has been re-elected comptroller of the state.——Dr. William Winder Goldsborough, Greensboro, has been elected a member of the state senate.

University Attendance.—There are 331 matriculants in attendance at the University of Maryland, of whom 99 are in the medical department, the remainder in the departments of pharmacy and dentistry.

Debt to be Paid.—The floating debt of $4,000 of the Western Maryland Hospital, Cumberland, will be wiped out, the state having appropriated $2,000 and an equal amount having been raised by private subscription.

State Examination.—The Board of Medical Examiners of Maryland will hold the regular examination December 13 to 16 at the hall of the Medical and Chirurgical Faculty of Maryland, 847 North Eutaw Street, Baltimore. Applications will not be received after December 7.

Society Election.—The Washington County Medical Society met last week and elected the following officers: President, Dr. Luther H. Keller, Hagerstown; vice-president, Dr. W. S. Richardson, Williamsport; secretary, Dr. Victor D. Miller, Jr., Hagerstown; treasurer, Dr. Hamilton K. Derr, Hagerstown, and censor, Dr. D. C. R. Miller, Mason and Dixon, Pa.

Hospital Report.—At the Springfield Hospital for the Insane there were 662 patients, of whom 388 are male and 274 female. The Edwin Warfield Cottage, named after the governor, will be ready for occupancy in about four weeks, and will accommodate about 60 additional patients. The managers are gradually providing artesian wells and thus doing away with the use of surface water at the institution.

Baltimore.

Bequests.—The late Dr. Charles C. Shippen left $5,000 each to St. Paul's Protestant Episcopal church and the Charity Organization Society.

Hospital Staff Changes.—Four of the resident physicians at the City Hospital have resigned: Drs. Robert Wriston, West Virginia; Alfred Brinham, Maryland; Edwin Bledsoe, Virginia, and George Berkheimer, Pennsylvania. Their places have been supplied by Drs. Lamar, Kentucky; Downey, Virginia; W. A. Glines, New York, and F. E. Knowles, New Jersey.

Mushroom Poison Antitoxin.—It is announced that Dr. W. W. Ford, instructor in bacteriology at the Johns Hopkins University, has discovered an antitoxin for mushroom poisoning. By boiling and filtering the poisonous species he obtained a toxin with which, by the same process that was used with the diphtheria antitoxin, he immunized small animals, thus obtaining a protective serum. The substance has not been tried yet in a human being.

St. Luke's Day Service.—A special service was held at Grace Protestant Episcopal church Sunday, November 19, for physicians, medical students and nurses. For many years such a service has been held in St. Paul's cathedral on St. Luke's Day, October 18. The sermon was preached by Bishop Court-land Whitehead of Pittsburg, chaplain of the St. Barnabas Guild for Nurses of America. After the sermon Dr. Howard A. Kelly addressed the audience.

Personal.—Dr. Henry Barton Jacobs returned to Baltimore November 13.——Dr. Randolph Winslow has been elected chairman of the section on clinical medicine and surgery, Medical and Chirurgical Faculty of Maryland, also consulting surgeon to the Hebrew Hospital.——Dr. Roland B. Whitridge will spend the winter in Europe.——Dr. Fairfax G. Wright, assistant medical superintendent of the University Hospital, has been ill with an infected wound of the hand.

MASSACHUSETTS.

Hospital Opened.—The remodeled Holyoke City Hospital was formally opened for inspection November 1.

Check for Hospital.—George E. Keith, Brockton, gave a check for $500 to the Brockton Hospital on the occasion of the dedication of the Douglas Surgical Pavilion and the Wales Memorial Ward, October 31.

Would Prohibit Animal Experimentation.—It is said that there will be introduced in the legislature this winter an "act to prohibit all experiments under any circumstances and for any purpose whatsoever, with or without an anesthetic, on dogs and cats." It is anticipated that physicians and the friends of science and progress and humanity in Massachusetts will be ready to oppose such legislation.

Superintendent of Leprosarium.—Dr. Louis Edmonds of Harwich, who has been associate medical examiner of Barnstable County, has resigned, in order to become superintendent of the new State Leper Colony, to be located on Penikese Island, fourteen miles from New Bedford. There are at present five lepers, two Chinese and three Portuguese, one of the latter being a woman, who will be moved with Dr. Edmonds from Harwich, where for a year he has had charge of them.

Tuberculosis Exhibition.—A free tuberculosis exhibit under the auspices of the State Board of Health is to be opened in Faneuil Hall, December 28. The project is the result of the efforts of the Boston Association for the Relief and Control of Tuberculosis and is backed by a state appropriation of $2,000. For ten days there will be lectures and demonstrations, both day and evening. Much literature in several different languages will be distributed and explained. Apparatus and demonstrations of methods for the prevention and cure of the disease will be presented in great detail and specific efforts will be made to popularize the exhibits. Reciprocal arrangements, too, have been made for the display of the entire New York City exhibition, whose date precedes this one in Boston.

Tufts College News.—Tufts College Medical School opened September 27 with a large entering class. There are now 379 students, of whom 109 are in the entering class. The following changes in the faculty have been made: Dr. Charles P. Thayer has retired as secretary because of ill health, and has been made emeritus professor of anatomy and has had bestowed on him a substantial pension; Dr. Frederick M. Briggs has been made secretary; Dr. Harry H. Germain has been appointed assistant professor of anatomy; Dr. Karl August Hoch, instructor in neuro-pathology, has resigned; Dr. Frederick C. Hollis, formerly of Yale Medical School, has been appointed instructor in medical chemistry; Drs. C. H. Staples and L. W. Strong, assistants in hematology; Dr. Edwin B. Neilson, assistant in gynecology; Dr. John D. Clark, instructor in anatomy; Dr. Theo. C. Beebe, Jr., assistant in surgery and assistant demonstrator of anatomy; Drs. John W. Lane, George McIntire, F. E. Haskins and Robert E. Andrews, assistant demonstrators in anatomy; Drs. Edison W. Brown and Leon S. Medalia, assistants in pathology and bacteriology, and Drs. Sidney C. Hardwick and Margaret E. Carley, assistants in physiology.

MICHIGAN.

Scarlet Fever Closes Schools.—Because of the prevalence of scarlet fever on the east side of the town, the school board of Elk Rapids has deemed it advisable to close the schools for a time. Rigid quarantine is being enforced.

Vote for Detention Hospital.—By a vote of 234 to 49 Ann Arbor has decided to raise $8.000 for a detention hospital for contagious diseases, to be built and equipped by the city, but to be maintained by the University of Michigan.

Personal.—Dr. Henry G. Glover, Jackson, has moved to Philadelphia, and Dr. H. T. Brown, Stockbridge, succeeds to his practice.——Dr. John B. Wright, Detroit, is ill with pneumonia at Grace Hospital.——Dr. Herbert M. Best, Ludington, has returned from the Pacific Coast and will practice in Grand Rapids.

Copper Range Changes.—Dr. Addison D. Aldrich, formerly of the Champion Mining Company, has been appointed physician at the Challenge mine, Hancock.——Dr. W. D. Whitten, formerly surgeon to the Quincy Mining Company, has been appointed physician at the Baltic mine.——Dr. William E. MacNamara, Brighton, has succeeded Dr. Cole at Redridge.——Dr. William K. West, Calumet, has been appointed chief surgeon of the Copper Range Mining Company and will reside at Painesdale.

Lockwood Hospital Report.—The annual report of the treasurer of Lockwood Hospital and Deaconess Home, Petoskey, for the fiscal year ended July 31, 1905, shows total receipts from all sources of $6,357.68, and total expenditure of $6,299.03, leaving a balance in hand of $858.65. The loss in operating the institution for the year 1903 was $2,393.10; for the year 1904, $949.63, and for the year 1905, $200.60. During the fiscal year 216 patients were admitted to the hospital, 201 discharged, 12 died and 16 remained in the hospital at the close of the year.

October Mortality.—There were 2,838 deaths reported for October, or about 200 fewer than in the preceding month. The death rate was 13.1 per 1,000 population, somewhat higher than the rate for October, 1904, which was 12.0. By ages there were 691 infants under 1 year, 219 children aged 1 to 4 years, and 747 deaths of elderly persons over 65. Important causes of death were as follows: Tuberculosis of the lungs, 190; typhoid fever, 102; diphtheria, 57; scarlet fever, 11; measles, 2; whooping cough, 13; pneumonia, 97; diarrhea and enteritis of infants, 357; cancer, 141; accidents and violence, 175. There was a very marked increase in the number of deaths from typhoid fever, and the number of deaths occurring from this cause, 102, was the largest reported for any month since the year 1900.

Wayne County Society on Vaccination.—Wayne County Medical Society, at its meeting October 1, put itself on record *against the action of the superintendent of schools of Detroit* in allowing children to enter school without having been vaccinated, by adopting the following resolutions:

Whereas, The superintendent of public schools of the city of Detroit on September 16 issued an order to the principals of all the public schools in this city directing them to admit pupils applying for admission to the public schools, whether they had been vaccinated or not; and,

Whereas, This action throws down all legal safeguards for protecting the public school children from the remarkably contagious disease, smallpox, and is directly contrary to a standing order of the school board still unrepealed; and

Whereas, Smallpox has been continually prevalent in the state of Michigan for the last four years; and

Whereas, The Supreme Court of the United States has held legal the right of the state to impose compulsory vaccination;

Resolved, That the Wayne County Medical Society considers this action on the part of the superintendent of Detroit's public schools an assumption of authority not belonging to his office, a dangerous and indefensible action and a serious menace to the city of Detroit.

NEW JERSEY.

Diphtheria.—The public schools of Winslow have been closed on account of an epidemic of diphtheria.——Several cases of diphtheria are reported from Elizabeth.

Personal.—Dr. William V. McKenzie, Metchuen, is seriously ill and it is feared that he will have to give up practice.——Dr. Calvin Anderson has been elected mayor of Madison.——Dr. Joseph H. North, Jr., has been elected mayor of Pleasantville.

Gifts to Hospitals.—The Entre Nous Club, Atlantic City, has given $5,000 to the Atlantic City Hospital for the endowment of a bed in that institution.——Mrs. Harvey E. Fisk has sent a check for $500 to the Monmouth Memorial Hospital and will also endow a bed.

To Start Medical Library.—For the purpose of organizing a medical library association for the use of physicians of Essex County and vicinity, a call was issued for a meeting in Newark November 18. The object of the proposed society is twofold: First, the establishment of a technical working library of practical value to physicians and which will receive the co-operation of the public library authorities in its maintenance and growth; and, second, the creation of an independent medical organization.

Verdict Set Aside.—The Supreme Court has rendered an opinion in which it sets aside the verdict obtained by George Lees, Plainfield, against Dr. Albert Wickman, Newark. In October, 1904, Lees sued for $20,000 for injuries alleged to have resulted from the improper application of a plaster jacket, and was given a verdict by a Somerset County jury for $780.20. At the trial it was shown by expert testimony that the injuries alleged could not have been the result of any treatment applied. The Supreme Court held that the verdict of the lower court was contrary to the evidence.

Italian Hospital Opened.—The new Hospital of the Immaculate Conception, Orange, was opened October 29 with due ceremony. The institution has now 25 beds and in a few days accommodation for 10 additional patients will be added. The medical staff consists of Drs. Thomas N. Gray, East Orange; Frank B. Lane, Orange; William O'Brien, West Orange; Antonio J. Amico, Newark; Ralph H. Hunt, East Orange; Frances E. Knowles, South Orange; W. D. Garrett, East Orange; M. W. Newcomb, East Orange; Carlo Martinetti, Orange; M. Herbert Simmons, Orange; Frank W. Lockwood, East Orange, and Charles W. Banks, East Orange.

NEW YORK.

Red Cross.—The first annual meeting of the New York state branch of the American Red Cross was held in New York City November 14. This society has 374 members. It is the intention of the state branch to organize subdivisions throughout the state. An interesting feature is the enrollment of doctors and nurses for emergency service. Drs. George E. Brewer, Samuel E. Lambert and John W. Brannan have consented to act as the advisory committee.

Charity Workers.—The New York State Conference of Charities and Corrections was in session in Carnegie Lyceum on November 14 and 15. Dr. Thomas Darlington, health commissioner of this city made an address at the opening session. In reviewing the important philanthropic events in the state during the past year he mentioned the passage of a special charities appropriation bill, instead of leaving the appropriations a part of the general bill, and the undertaking by the city of New York of establishing a tuberculosis sanitarium on Staten Island. The subject of the care and relief of needy families in their homes was discussed by Dr. Lee K. Frankel. He placed the total value of philanthropic agencies in New York state at $100,000.000 and the annual expenditure for the care of the poor and afflicted not less than $23,000,000. It was to be regretted that this large expenditure was not rather for the prevention of future ills than for the palliation of suffering already existing. A committee is looking into the matter of keeping accounts and the better financial administration of the hospitals. Dr. E. D. Shiner told what had been done by schools in the way of training atypical children and advocated a further development of the plan. The treatment of criminals, social betterment and the elimination of politics from charitable institutions was also discussed.

New York City.

Seagoers.—Dr. and Mrs. Calvin T. Adams sailed on the *Moltke* November 15.——Dr. L. P. Williamson, United States Navy, sailed on the *Minnetonka*, for London, November 18.

Italian Sanitarium.—City officials and leaders have interested themselves in the Harlem Italian Sanitarium, which was established a year ago by Dr. C. Atonna, Dr. F. Sanarelli and Mr. Caterain, and which is doing good work among the poor dwellers of the uptown Italian colony. At a recent benefit sufficient funds were raised to put the hospital on a permanent basis.

Good Health of the City.—The death rate of the city for the week ending November 11 was at the annual rate of 14.89 per 1,000. There are practically no contagious diseases at present. Among 600,000 school children there were only five deaths. Deaths from pneumonia have fallen to 60 and from tuberculosis to 74. Deaths from violence and suicide were most numerous.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending November 11, 335 cases of tuberculosis, with 160 deaths; 275 cases of diphtheria, with 22 deaths; 155 cases of measles, with 8 deaths; 105 cases of typhoid fever, with 12 deaths; 96 cases of scarlet fever, with 5 deaths; 13 cases of cerebrospinal meningitis, with 7 deaths, and 62 cases of chickenpox.

The Seaside Hospital.—The report of the society which supports this hospital shows that $90.000 has been raised during the past year, of which sum $3.000 remains in the bank after paying an indebtedness of $25.000 and paying the running expenses of the past year. During the past summer 33,661 mothers and children were cared for on the hospital boat, and 2,521 patients were admitted to the Seaside Hospital. It is the present object of the society to keep this institution open during the winter as a convalescent hospital; so there is great need of such an institution in or near the city. Dr. Ernest J. Lederle was elected one of the trustees.

OHIO.

Diphtheria.—Diphtheria is reported in North Amherst.——Bergholz is reported to have more than 20 cases of the disease.

Goes to Penitentiary.—"Dr." Charles Lewellyn, Youngstown, has been sentenced to imprisonment for one year in the penitentiary for impersonating a United States pension officer.

Violator of Law Fined.—W. W. Hodgkins, Toledo, pleaded guilty in the police court November 15 to practicing medicine without being registered, as being required by law, and was fined $50 and costs, but the fine was suspended until November 25 to give the defendant an opportunity to comply with the law.

Ill and Injured.—Dr. Phineas S. Conner, Cincinnati, is seriously ill from nervous trouble at the Good Samaritan Hospital.——Dr. William D. Hamilton, Columbus, was operated on for appendicitis in Chicago November 15.——Dr. Jerome Bland, Bucyrus, who has been seriously ill from cerebral hemorrhage, was taken to Hot Springs, Ark., for treatment November 14.

Farewell Banquets and Presentation.—The medical staff of the National Military Home, Dayton, gave a farewell banquet to Dr. D. Clark Huffman, formerly chief surgeon of that institution, October 31, at which he was presented with a loving cup.——On November 1 the officers of the home met and presented Dr. Huffman with a beautiful mantel clock.——The Guernsey County Medical Association gave a banquet at Cambridge, October 31, in honor of Dr. Frank M. Mitchell, president of the association, who left for his new home in Greeley, Colo., two weeks later.

Personal.—Dr. Charles C. Booth has been appointed local surgeon for the Lake Shore Road at Youngstown, vice Dr. Albert E. Warren, deceased.——Dr. Albert McClintock, New Moorefield, has returned from Raton, N. M.——Dr. Isaac C. Kiser, Fletcher, has been elected coroner of Miami County.——Dr. James A. Hubbell has been elected mayor of Quincy.——Dr. Robert Henderson, Urbana, has been elected a member of the board of public safety.——Dr. David N. Kinsman, Columbus, has been elected secretary of the State Board of Medical Examination and Registration, to succeed Dr. Frank Winders, resigned. This will necessitate Dr. Kinsman's resignation as chancellor of the Ohio Medical University.——Dr. William N. Bradford has been elected mayor of Cambridge.

PENNSYLVANIA.

Bequest.—By the will of the late Frank F. Risinger, the York Hospital will receive $5,000.

Personal.—Dr. J. Trechler Butz of Allentown, Pa., has been elected coroner of Lehigh County.

Antitoxin Stations Established.—Dr. Samuel G. Dixon, state commissioner of health, has established 500 stations throughout the state for the free distribution of antitoxin to the needy poor. The antitoxin can only be secured by personal application of the physician attending the case. Free antitoxin used by the state is made especially for it and bears a special label.

Philadelphia.

Northeast Branch to Organize.—It is announced in the roster of the county medical society that a meeting of medical men of the northeastern section of the city will be held November 27, to organize a northeast branch of the county society.

The Mütter Lecture.—The Mütter lecture for 1905 will be delivered in the hall of the College of Physicians, Thirteenth and Locust Streets, on Friday, December 1, at 8:30 p. m., by Dr. Aloysius O. J. Kelly on "Infections of the Biliary Tract."

Discharged.—Dr. Thomas B. Williams, who was arrested two weeks ago on the charge of having performed an illegal operation, has been discharged from custody, as the woman, her husband and the physician who was called in to attend her, failed to appear as witnesses.

Health Report.—The deaths from all causes in the city for the week numbered 407, which is a decrease of 31 from the number reported last week, and an increase of 6 over the number reported in the corresponding period of last year. The principal causes of death were: Typhoid fever, 6; whooping cough, 3; diphtheria, 11; tuberculosis, 47; cancer, 16; diabetes, 5; apoplexy, 25; heart disease, 37; acute respiratory disease, 63; enteritis, 18; Bright's disease, 32; suicide, 6; accidents, 26, and marasmus, 6. There were 253 cases of contagious disease, with 18 deaths, as compared with 251 cases and 18 deaths the preceding week.

Bequests.—By the will of the late Mrs. Nancy W. King of Doylestown, Pa., the Episcopal Hospital of Philadelphia receives $5.000 for the endowment of a free bed.——By the will of the late G. E. Gillingham the Pennsylvania Hospital receives $50.000; the Philadelphia Home for Incurables. $5.000; The Women's Medical College of Pennsylvania, in Philadelphia, $5.000, to be used for founding and maintaining a scholarship in said college; the Hospital of the Good Shepherd in Rosemont, Pa., $5,000 for founding and maintaining a free bed and other purposes, in the name of his deceased wife, Clara D. Gillingham; the Bryn Mawr Hospital, $5,000 for founding and maintaining a free bed in the name of his deceased wife, Clara D. Gillingham; the Maternity Hospital of Philadelphia, $5,000, and the Charity Hospital of Norristown, Pa., $5,000.

VIRGINIA.

Want Tax Abolished.—The Richmond Academy of Medicine has appointed a committee to try to have the city license tax abolished; a similar work will be pushed in the legislature in regard to the state license.

City Bacteriologist.—Richmond has just passed an ordinance creating the office and defining the duties of a city bacteriologist. The salary is $900 per year and the position is filled by election by the members of the board of health.

Physicians Raise Fees.—The Norfolk Medical Society has decided that calls responded to between 9 p. m. and 7 a. m. are to be considered night calls, and such visits shall be charged for at the rate of $5. It was considered wise to bring this matter before the public through the daily press.

Establishment of a Tuberculosis Sanitarium.—At the invitation of Dr. William F. Drewry, superintendent of the Central State Hospital, Petersburg, a number of physicians from different sections of the state met in Petersburg. The treatment of tuberculosis was discussed and the proposition to establish a sanitarium for this disease at Ironville, Bedford County, was considered. A considerable tract of land has already been secured, some cottages erected and a few patients are now under treatment.

GENERAL.

Yellow Fever in Havana.—The health officials of Havana, Drs. Finlay and Delgado, have officially notified the United States Public Health and Marine-Hospital Service of the presence of five cases of yellow fever and of several suspects in that city.

Wabash Surgeons' Association.—At the meeting of the Wabash Railroad Surgeons' Association, November 10, Dr. C. B. Powell, Albia, Iowa, was elected president, and Dr. Christian B. Stemen, Fort Wayne, was re-elected secretary, a position which he has held for the last twenty-four years.

College Association to Meet.—The annual meeting of the Southern Medical College Association will be held in one of the parlors of the Seelbach Hotel, Louisville, Ky., at 10 a. m., Monday, December 11, which is the day preceding the meeting of the Southern Surgical and Gynecological Association. The secretary is Dr. G. C. Savage, Nashville, Tenn.

Yellow Fever Subsides.—Pensacola, on November 12, reported that there was not a case of yellow fever under treatment, but a new one was reported the next day. Florida quarantines were removed on November 19.——Texas alone maintains quarantine, except that there is general quarantine against Havana.——Texas did not participate in the quarantine conference.——New Orleans, on November 11, had two cases under treatment and no new cases reported for the previous four days.——In Louisiana, outside New Orleans, there remain only some half-dozen cases in all.

Meeting of Western Bellevue Alumni.—The fifth annual meeting and dinner of the Western Alumni Association of the University and Bellevue Hospital Medical College was held at the Sherman House, Chicago, November 10. The president, Dr. Charles C. Hunt, Dixon, Ill., acted as toastmaster. The following officers were elected: President, Dr. John M. Ristine, Cedar Rapids, Iowa; vice-presidents, Drs. Calvin M. Fitch, Chicago; James F. Percy, Galesburg, Ill., and Dr. Frederick W. Werner, Joliet, Ill.; secretary-treasurer, Dr. Willis O. Nance, Chicago, and executive committee, Drs. G. Frank Lydston, Chicago; Paul Caspers, Chicago; James F. Todd, Chicago; John W. Van Winkle, Chicago, and Charles C. Hunt, Dixon, Ill.

Ohio Valley Medical Association.—The Ohio Valley Medical Association met in Henderson November 8 and 9. The following officers were elected: Dr. Daniel M. Griffith, Owensboro, Ky., president; Drs. Brooks F. Beebe, Cincinnati, H. Preston Sights, Paducah, Ky., and Curran Pope, Louisville, vice-presidents, and Dr. Benjamin L. W. Floyd, Evansville, Ind., secretary and treasurer (re-elected). Louisville, Ky., was selected as the next place of meeting. The association appointed a committee to work up a sentiment in the different states in the Ohio Valley regarding the proper care and treatment of inebriates by the state, with Dr. Dudley S. Reynolds, Louisville, as chairman. A resolution was also adopted asking the Kentucky State Legislature to have a bust of Dr. Ephraim McDowell placed in the Capitol in Washington.

The Southern Quarantine Conference.—Following is the full text of the quarantine resolutions which were unanimously adopted by the conference of southern states, to which we referred last week:

QUARANTINE RESOLUTIONS.

> Whereas, The experience of recent years, and especially the experience of this year, have demonstrated beyond cavil that the house mosquito, known as the *Stegomyia fasciata*, is the sole known cause of yellow fever epidemics and have demonstrated the futility and nuisance of many antiquated methods of quarantine hitherto resorted to, and the wisdom and necessity, in the interest of the public health and the public business, of uniform regulations to prevent the importation into the United States of yellow fever and its spread from state to state in the unfortunate event of its introduction; now, therefore, be it
>
> *Resolved*, That we, delegates from Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, Maryland, North Carolin [illegible] ennessee, Virginia and West Virginia, hereby [illegible] the Senate and House of Representatives in [illegible] to enact a law whereby coast maritime and [illegible] quarantine shall be placed exclusively under the control and jurisdiction of the United States Government, and that matters of interstate quarantine shall be placed under the control and jurisdiction of the United States Government, acting in co-operation with the several state boards of health.
>
> We, furthermore, respectfully request that congress shall make adequate appropriation to enforce and perfect the objects of this memorial and to stamp out as nearly as practicable the yellow fever-carrying mosquito in its breeding or living places in the United States, and by negotiating arrangements with the governments of Central and South America and the West India islands, in places where the said mosquito has its breeding places or exists in said countries.
>
> *Resolved*, second, That we urg [illegible] f the several southern states that they [illegible] lations as nearly as possible in accord and [illegible] enacted.
>
> We, furthermore, urge the gov [illegible] eral states with the above object in view specifically to call the attention of the legislatures of their respective states to the wisdom and policy of this course.

The Norfolk *Virginian-Pilot*, November 12, said editorially:

> The Southern Quarantine and Immigration Conference has in our opinion, acted wisely in adopting a resolution requesting congress to enact a law "whereby coast, maritime and national frontier quarantine shall be [illegible] the control and jurisdiction of the U [illegible]" and the *Virginian-Pilot*, for one, [illegible] suggested legislation will be speedily enacted.
>
> In our opinion, the South is the section of the country which will derive the most benefit from national control, and every southern representative, who has the best interests of his section and his country at heart, should not hesitate to declare in its favor.

The New Orleans *Democrat*, November 11, said:

> There can be no question whatever of the jurisdiction of the Federal Government in regard to interstate quarantine affairs, its absolute constitutional jurisdiction, and some day this will be recognized so fully by all that there will no longer be any objection to its assuming sole charge of them.

American Tuberculosis Exhibition.—This exhibition, as we announced two weeks ago, will be held in the American Museum of Natural History, New York City, November 27 to December 9, under the auspices of the National Association for the Study and Prevention of Tuberculosis and the Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York City. Chief stress is to be laid on a popular presentation of the facts of the situation and the approved methods of prevention and cure. This will be done by charts, tables, photographs, plans, models and apparatus. The co-operation from sana [illegible] n the United States and Canada has been [illegible] and both public and private institutions from all parts of the country will be elaborately represented. A representative collection of material from the recent exposition in Paris will form an attractive feature. Models of various tents and buildings for open-air treatment will be given a prominent place. A series of public meetings has been arranged. On the opening night the principal address will be by Mr. Talcott Williams, of Philadelphia, while brief addresses will also be made by Mayor McClellan, of New York, by Dr. Darlington, commissioner of health, and by President Jesup, of the museum. Wednesday evening, November 29, at a special meeting devoted to tuberculosis and the trades, the principal address will be by Mr. Graham Taylor, Chicago, with short addresses by President Gompers, of the American Federation of Labor, and other well-known representatives of organized labor. Friday evening, December 1, at a special meeting for physicians, addresses will be made by Drs. Lawrence F. Flick, Philadelphia; W. A. Evans, Chicago; A. Jacobi, New York; Vincent Y. Bowditch, Boston, and others. Friday, December 8, at a meeting for the teachers of the public schools, Dr. S. A. Knopf, New York, will speak. The New York Board of Education is cordially aiding the movement and is officially urging the teachers to attend the meeting and exhibition. The committee is in receipt of numerous requests from other cities for the loan of the material. The National Association for the Study and

Prevention of Tuberculosis is also endeavoring to form one or more traveling exhibits on a smaller scale which may be packed in small compass and kept constantly on the move, being exhibited in towns and villages where it would be impossible to arrange for or to finance a large exhibition. A special exhibition of pathologic material has been installed, the nucleus of which is formed by contributions from the Phipps Institute in Philadelphia and the Laboratory at Saranac Lake. Sanatorium physicians are specially asked to meet on the afternoon of December 1. Further information may be obtained from Mr. Livingston Farrand, secretary, 105 East Twenty-second street, New York.

National Tuberculosis Association Nomenclature.—We publish below the report of the committee on nomenclature to the National Association for the Study and Prevention of Tuberculosis, presented at the annual meeting in Washington. The association is anxious to have the proposed system tested by physicians in sanatoria and hospitals in order that criticism based on experience may be received. The executive secretary of the association is Dr. Livingston Farrand, 105 East Twenty-second Street, New York City. The report recommends the use, with additions thereto, of Turban's scheme for a method of comparative statistics for pulmonary tuberculosis. This is now used by the International Association for the Prevention of Tuberculosis in Europe. Following is a translation, with some modifications, from *Tuberculosis*, the monthly publication of the Central International Bureau for the Prevention of Consumption, September, 1904 (Johann Ambrosius Barth, Leipsig).

TURBAN'S SCHEME.

1	Extent of disease in the lungs.	I II III	For exact definition see below.
2	How long consumptive?	3 months..	Period to date from the observation of the first clinical symptoms, e. g., stubborn coughing, hemoptysis, pleurisy, loss of flesh, etc.
3	General condition of the patient.	A.......... X..........	A = favorable. X = unfavorable.
4	Digestion......	B.......... Y..........	B = unimpaired. Y = impaired.
5	Pulse..........	....	The pulse is to be registered every morning and evening, the patient resting.
6	Temperature ..	F.......... f.......... t n..........	F = Maxima for the day over 101 F. f = Maxima for the day from 99 F. to 101 F. t n = normal temperature (mouth).
7	Tubercle bacilli.	+.......... 0..........	+ = tubercle bacilli present. 0 = tubercle bacilli absent.
8	Tuberculous complicat'ns	Larynx....	Name of the organ suffering from tuberculosis.
9	Other complications.	....	Name of the disease.
10	Result of treatment.	....	(Vide classification of results of treatment proposed by committee on nomenclature.)

DEFINITION OF THE EXTENT OF DISEASE IN LUNGS, ACCORDING TO TURBAN.

I. *Slight lesion* extending at most to the volume of one lobe or two half lobes.

II. Slight lesion extending further than I, but at most to the volume of two lobes; or severe lesion *extending* at most to the volume of one lobe.

III. All lesions which in extent of the parts affected exceed II.

By "slight lesion" we understand *disseminated* centers of disease which manifest themselves physically by slight dullness, by harsh, feeble, or broncho-vesicul[illegible] râles.

By "severe lesion" we mean [illegible] and excavation such as betray themselves [illegible]y tympanitic sounds, by very feeble broncho-vesicular, bronchial, or amphoric breathing, by râles of various kinds.

Purely pleuritic dullness, unless marked, is to be *left out of account*; if it is serious, the pleurisy must be specially mentioned under the head of "*tuberculous complications.*"

The volume of a single lobe is always regarded as equivalent to the volume of two half lobes, etc.

ADDITIONS BY THE COMMITTEE.

PROPOSED CLASSIFICATION OF CASES AND RESULTS OF TREATMENT IN PULMONARY TUBERCULOSIS, TO BE USED IN CONNECTION WITH TURBAN'S SCHEME.

Progressive: (Unimproved). All essential symptoms and signs unabated or *increased.*

Improved: Constitutional symptoms lessened or entirely absent; physical signs improved or *unchanged*; cough and expectoration with bacilli usually present.

Arrested: Absence of all constitutional symptoms; expectoration and bacilli *may* or *may* not be present; physical signs stationary or retrogressive; the *foregoing* conditions to have existed for at least two months. (The length of time mentioned is of course somewhat arbitrary, but is *intended* to cover the cases which frequently occur, where the patients leave a sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms *may have* ceased completely soon after entrance.)

Apparently Cured: All *constitutional* symptoms and expectoration with bacilli absent for a period of three months; the *physical* signs to be *those of a healed* lesion.

Cured: All constitutional symptoms and expectoration with bacilli absent for a period of two years under *ordinary* conditions of life.

Incipien[illegible] [illegible]ght initial lesion in the form of infiltration [illegible] or a small part of one lobe. No tuberculou[illegible] [illegible]ight or no constitutional symptoms (particula[illegible] or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

Moderately Advanced: No marked impairment of function either local or constitutional. Localized consolidation moderate in extent with little or no evidence [illegible] [illegible]ssue; or disseminated fibroid deposits. No [illegible]

Far Advanced: Marke[illegible] [illegible]cal and constitutional. Localized [illegible]e; or disseminated areas of softening; or [illegible]

Acute Miliary Tuberculosis.

PLAN SUGGESTED BY THE COMMITTEE ON NOMENCLATURE FOR TABULATION OF CASES FOLLOWING TURBAN'S SCHEME.

Name.		Condition.	Amount of Involvement.	Duration of Disease.	General Condition.	Digestion.	Range of Pulse.	Max. Temp. for day. Deg.	T. B.*	Complications.	
										Non-tub.	Tub.
Mr. X..	On admissi'n	Advanced	II	3 mo.	Favorable.	Impaired.	76–100	100	+	Neg.	Neg.
	At discharge.	Arrested.	II	9 mo.	Favorable.	Unimpaired.	76	98.6	0		

* Absence or presence of tubercle bacilli to be *determined only* after repeated examinations while patient is under observation.

CANADA.

More Insanity in Montreal.—Insanity is said to be increasing in Montreal. In 1898 the commitments for insanity numbered 158; in 1900, 174; in 1904, 251; this year, 171 up to November 1.

Smallpox in Ontario.—Thirty cases of smallpox have developed in a township near Peterboro, Ont.——Five new cases of smallpox developed last week in Toronto. Eleven patients are now in the smallpox hospital.

Personal.—Dr. G. Forrest Weatherhead, assistant physician of the Protestant Hospital for the Insane at Verun, Quebec, has been given a medal by the Montreal branch of the Royal Canadian Humane Association, for heroism in life-saving.——Dr. A. J. Richer, Montreal, delivered a public lecture in Quebec, November 6, on the new outdoor treatment of tuberculosis.——Mr. Z. A. Lash, K.C., Toronto, has contributed $10,000 to the proposed new Toronto General Hospital. The total now subscribed is $989,000.——Dr. H. R. Duff, Kingston, Ont., has been appointed vice-chairman of the Kingston General Hospital.——Dr. C. J. Fagan, provincial medical officer of British Columbia, has returned to Victoria from a trip east.

Hospital News.—During October there were 10 patients in the Swiss Cottage Hospital, Toronto, with smallpox. Four were discharged cured during the month, and 6 remained at the end of the month.——About $15,000 has been subscribed in Hamilton, Ont., for the purpose of a consumption sanitarium for that city.——A by-law will be submitted to the citizens of Winnipeg to raise $150,000 to aid in additions to the Winnipeg General Hospital.——The Toronto Nursing-at-Home Mission has cared for 327 patients since the first of June. The seven nurses connected with this institution made 2,578 visits to these patients.——A new hospital, Miseriorde Hospital—will soon be completed at Edmonton, Alberta. The edifice will be four stories high and will cover an area of 100x50 feet.——St. Paul's Hospital, Montreal, the new contagious diseases hospital in connection with Notre Dame Hospital, was consecrated by Archbishop Bruchesi on October 29.——A conference is to be held between the board of trustees of Toronto General Hospital, the Ontario government and the representatives from the University of Toronto, at a nearby date. The present board of trustees, which consists of five, three appointed by the government, one by the subscribers and one—the mayor—by Toronto, will hand in their resignations. It is likely that a larger board will be appointed to administer the affairs of the new hospital which will shortly be erected.——A new staff has been organized recently in connection with St. Boniface Hospital, Winnipeg. A meeting was held October 19, when Hon. Dr. O'Donnell was elected president and Dr. J. McKenty, secretary. The staff consists of the following members: Consulting physicians, Drs. O'Donnell, J. R. Jones and William Rogers; consulting surgeons, Drs. England, McArthur, R. McKenzie; attending physicians, Drs. Lambert, Nicholas, McKenzie, Peatman; attending surgeons, Drs. Todd, McKenty, Lehman; attending physicians, children's ward, Drs. Davidson, Dubuc, Slater; infectious diseases, Drs. Devine, penny, Teney, Gardner, Howden; oculist, Dr. Good; pathologists, Drs. Bell, McLean and Turnbull. Heretofore this hospital has been an open institution.——The late Senator Fulford of Brockville, Ont., left $25,000 to the Brockville General Hospital.——The Dominion government will erect a new detention hospital at Quebec with accommodation for 300 to 400

FOREIGN.

Closure of Russian Universities.—The *St. Petersb. med. Wochft.* states that all the Russian universities are closed.

Plague at Zanzibar.—Bubonic plague is reported to be present in Zanzibar, but steamship lines are said to be taking both passengers and freight.

Bubonic Plague in China.—The United States consuls at Antung and at Niuchwang report that plague has appeared at these places and that there has been one death from the disease at Niuchwang.

Variola in Chili.—It is reported from Valparaiso that since the beginning of the recrudescence of variola in that city in January, 1905, 11,000 people have been stricken with the disease and over 5,000 deaths have occurred.

Cholera in Europe.—Scattered cases of cholera are reported here and there in Russia close to the western border. The mortality was 1 to 3 in the epidemic in Germany, while in Russia it seems to be 2 to 3.

Australasian Association for the Advancement of Science.—The next session of this association was to have been held in Adelaide in September, 1906, but it has been postponed till January, 1907, as September is not a convenient date for many of the members who are engaged in educational work.

Typhus Fever in Glasgow.—An outbreak of typhus occurred in a house intended to accommodate 4 or 5 individuals, but in which 9 persons were living. The health officer of the city calls attention to this case and urges the necessity of dealing severely with cases of overcrowding, as they are a menace to the health of the community.

Fee for Consultation by Telephone.—The Prussian medical chambers (Aerztekammer) have been discussing the question of the fee to charge when a physician is consulted over the telephone. The medical chamber in Pomerania has announced that the fee is the same for medical advice given over the telephone as when the patient comes to the physician's office. The other organizations will probably adopt the same rule.

Organization of the Profession in Germany.—We learn that the *Leipziger Verband,* to protect the economic interests of the members of the profession in Germany, now numbers 17,000. Great efforts are being made to enlist the recent graduates in the society as valuable material for the future. For this purpose an employment, exchange and information bureau has been opened at the central office, which is accomplishing good work.

A Medical Library for India.—A movement is said to be on foot among the officers of the Indian Medical Service to establish at a convenient center a circulating medical library. At present there is no such library in India which is of any practical use to medical men. At the medical colleges in the larger cities there are reference libraries, but these are not available to men throughout the empire. A model for such a library is that at Manila, for the use of United States employés in the Philippines.

Prizes Offered by the Mexican National Academy of Medicine.—Two prizes of $500 each are offered by the Academia Nacional de Medicina and published in its organ, the *Gaceta Medica de Mexico* for August 1. The subjects appointed are: "Early Diagnosis of Tuberculosis and Means to Prevent Its Spread" and "Study of Leprosy in Mexico." Articles must be written in Spanish and be received by the academy before Oct. 1, 1906. Address: Apartado postal num. 517, Mexico. The competing essays must be accompanied by the náme of the author in a sealed envelope.

Pure Food Bill in Victoria.—The pure food bill, recently introduced into the Victorian parliament, says the *Australasian Medical Gazette,* provides that no person shall sell beer which contains more than a hundredth part of a grain of arsenic per imperial gallon, or that contains any lead, copper, strychnin, cocculus indicus, picric acid, or any substance which is not a normal and proper constituent of beer or a necessary ingredient in its manufacture. In future it will be an offence to make or sell toys colored with varnish that contains arsenic or any other substance in a quantity exceeding that prescribed by regulation.

Cholera in India.—It is reported that the outbreak of cholera, which has been raging in Madras since last July, has at last shown signs of abating. The average death rate from cholera during August was over 50 a day, but the returns for September showed about 30 a day. The cause of the epidemic has been traced to the emigration depot in the north of the "Black Town." It was adjacent to this depot that an outbreak of plague occurred last year and that it was only by prompt and very energetic measures that the danger of the outbreak spreading to the whole city was averted. Naturally there has been an outcry for the removal of the depots beyond corporation limits.

Evening Surgical Demonstrations.—Professor Hochenegg of Vienna has inaugurated a series of weekly surgical evenings, free to physicians, when he will demonstrate various common operations. The first of these "evenings" attracted a crowded audience and aroused great interest. A lively discussion followed the presentation of two patients who had been treated by resection of a tuberculous ankle with Mosetig iodoform filling of the cavity. Certain physicians expressed fear of iodoform intoxication from the procedure and others of the dissemination of germs, claiming that the faultless healing of the wound does not necessarily imply that local and general recurrence is out of the question.

Importance of a Third Person at Consultations.—A dentist in Berlin was recently sentenced to three years in the penitentiary on account of the unsupported testimony of a young woman patient who had a slight fainting spell while he was attending to her teeth. She became pregnant and claimed that he must have committed a criminal assault on her during her unconsciousness. She testified that his clothing was disarranged when she regained consciousness. A correspondent writing from Berlin states that physicians there are becoming very scrupulous in regard to the presence of a third party in all their consultations, especially with young girls and even with men, as the frequency of homosexual practices has warned them to be on the alert.

The Medical Building at Brussels.—The official inauguration of the "Maison des Médecins," on the Grand' Place, in the heart of Brussels, occurred November 19. A number of prominent officials were present, as well as delegates from all the medical and scientific societies of the district. The building contains a large assembly hall and numerous lecture and committee rooms, with a well-equipped library of periodical literature. A number of medical and scientific societies have already engaged quarters for their meetings, and glass showcases have been installed and space on the walls rented for advertising purposes. The second floor has been set apart for a permanent exposition of everything connected with the installment of hospitals, operating rooms, disinfection apparatus, etc. The basement is given up to a restaurant.

Australian Health Society.—The annual meeting of the Australian Health Society was held on September 30 at Melbourne. The governor, Sir Reginald Talbot, presided. The annual report stated that during the year arrangements had been carried out for the amalgamation of the society with the Association for the Prevention and Cure of Tuberculosis. This association has been instrumental in arousing public attention to the need of concerted action for the prevention of consumption, and it is believed that the union of the two societies will further the spread of hygienic knowledge and promote the cause of sanitary progress. The annual examination of public school pupils in the subjects of health and temperance, conducted by the council with the co-operation of the education department, formed an important branch of the society's work.

Carnegie College of Hygiene.—The Carnegie College of Hygiene at Dunfermline was formally opened October 4. The course of study is very comprehensive. The college year is divided into three terms of twelve weeks each, and the work is divided into two sections—theoretical and practical—which, in turn, are subdivided. The theoretical includes human anatomy and physiology, personal and school hygiene, theory of movements and teaching, symptomatology in connection with remedial gymnastics and school hygiene, and voice production. The practical course includes (1) educational gymnastics—Ling's Swedish system, (2) remedial gymnastics and massage, students being allowed, under medical supervision, to treat cases; (3) methods of class teaching, students having charge, under supervision, of classes of all ages in the public schools and in the gymnasium; (4) games, dancing, and swimming.

Tuberculous Immigrants in New Zealand.—Dr. Mason, chief health officer of New Zealand, calls attention to the fact that of 190 patients with pulmonary tuberculosis treated at the Cambridge Sanatorium, 16 were stated to have come from other countries, and that most of them were unable to pay anything toward the cost of their maintenance. He is reported as saying that shipping companies are the natural enemies of the health department, and that the natural desire of the shipper to escape quarantine delays is the cause in nearly every instance of infectious diseases being introduced into a hitherto clean country. He maintains that if a strict examination were made at the port of departure of all persons proceeding to New Zealand to take up their residence, there would be no grounds of complaint against the health department on the score of their methods of dealing with consumptive immigrants.

Celebration of the Tercentenary of a British Physician: Sir Thomas Browne.—A portrait statue of Sir Thomas Browne was unveiled at Norwich with great ceremony on the three hundreth anniversary of his birth, October 19. Although he did not contribute anything to the science of medicine, yet his great works, "Religio Medici," "Christian Morals," "Vulgar Errors" and "Urn Burial," and the beauty of his character and public spirit have immortalized his name. Professors W. Osler and Clifford Allbutt were delegates to the celebration from Oxford, and Osler stated in the course of his address that he had visited Norwich thirty-three years ago as a pilgrim to the place hallowed by the memory of Sir Thomas Browne. He remarked further that there are three lessons to be learned from his life, all of value to the profession today: "First, we see in him a man who had an ideal education. He was thoroughly versed in the classics, and lived abroad for two years, thereby becoming a citizen of the whole world. The second important lesson from his life is that he presents a remarkable example in the medical profession of a man who mingled the waters of science with the oil of faith. The third lesson is that the perfect life may be led in a very simple, quiet way. Norwich was a small town in his day." The one blot on his memory was that he believed in witchcraft, and testified in the last trial of witches in England, the women being condemned.

Cholera in Europe.—Germany is dealing successfully with cholera as it is brought over the Russian border, but the outlook in Russia is very discouraging, as scattered cases are reported from a number of points along the frontiers and elsewhere. The congress of medical men summoned to Moscow last spring to discuss measures to protect the empire against invasion by cholera passed resolutions urging radical changes in the taxation, etc., which grind down the people, keeping them at the point of starvation and thus rendering them unable to cope with disease. The congress further went on record with the statements that the prevailing unrest was so great that attempts to arrest the spread of cholera would be likely to meet with opposition on the part of the peasants, and prove dangerous to life and limb of those engaged in prosecuting sanitary measures. Also that the return of troops from the seat of war is liable to spread disease, and if there should happen to be a grain shortage the outlook would be very threatening. The congress officially voted in favor of a national representative assembly which could deal with these and allied questions. The congress was denounced by the authorities as revolutionary, we remember, and its transactions were suppressed, but the czar has done what the congress demanded in regard to summoning a national assembly. The problems before it, however, take time to solve. and the danger from cholera is pressing.

Sanitary Regulation of Costumes, Libraries, Pawnbrokers, Etc.—The authorities in Bohemia have recently decreed that the clothing and bed linen of persons who have recovered or died from infectious diseases should be disinfected, and also the clothing and linen of persons who have been in contact with the convalescent or the deceased. Masks for the face are not allowed to be rented, and wigs must be revarnished inside before they can be rented to another party. All garments which come in contact with the body must be washed clean before they can be rented out again. Books and pieces of music in circulating libraries need not be disinfected before being given out, as no effectual means of disinfecting them has yet been found practicable. But a warning should be pasted in each book or piece of music cautioning against turning the pages with the moistened finger, and also suggesting the advisability of putting a paper cover on the book or piece of music before handling it. The warning notice should further request the holder of the book to notify the proprietor of the circulating library in case there is infectious disease at his house. In case of notice of infectious disease the proprietor should withdraw the books or music from circulation until after formaldehyd disinfection. The proprietors of large theaters are required to disinfect the costumes, especially all garments coming in contact with the body, used by the stock company. Pawnbrokers' establishments must be equipped with their own disinfecting plants.

Eighth French Congress of Internal Medicine.—The main addresses at this congress, which was held at Liège in September, were on "The Clinical Forms of Chronic Rheumatism," "Avoidance of Salt in the Diet in Nephritis," and "Secretions of the Pancreas." Widal outlined the treatment of nephritis by "dechloridation" as requiring first the removal from the organism of the salt and the edema encumbering it; when this has been accomplished, then allowing in the diet only enough salt to correspond to the degree of permeability of the patient's kidneys for the salt. At first all salt should be forbidden, but when the organism has once been freed from the excess of salt and fluid, then increasing amounts of salt should be permitted, always keeping below the strict tolerance of the patient. The "dechloridation" may be aided by diuretics; theobromin and its compounds are the most effectual dechloridizers. An ordinary diet with 2,600 calories contains about 1.5 gm. of salt. Comparative dosage of the salt ingested and eliminated will reveal at once the degree of permeability of the kidneys. Beco's experience has been that the use of diuretics to supplement abstention from salt is equally effectual whether the effusion is of renal or cardiac origin. His experimental research has demonstrated that certain diuretics act on the wall of the renal vessels, dilating them and thus augmenting the circulation through the kidney. Dechloridation treatment is one of the rare examples of a therapeutic progress logically deduced from progress in theorizing. The *Presse Médicale,* Nos. 78 and 82, contains the full text of the reports.

Ninth French Congress of Urology.—The French congress of urology always follows the congress of surgery at Paris, and this year it met October 5-7. Tumors of the bladder, prostatectomy and functional diagnosis of kidney disturbances were the main subjects treated. Rafin declared in regard to tumors of the bladder that surgical intervention for their removal should be within narrow limits. It is a trivial operation and the remote results are extremely satisfactory when the tumor is pedunculated or can be pedunculated, but when the tumor is infiltrated the immediate results of attempts to remove it are extremely grave and the outlook is serious. In 96 cases of partial cystectomy for epithelial cancer, there were 21 deaths at once, and in 25 cases the outcome is not known. In the remaining 50 cases, 5 of the patients were alive after three to six years, but 30 succumbed to recurrence and in 16 the outcome is not known. Total cystectomy has been done 30 times, with 17 operative deaths. Pawick's patient is the only one still surviving. Hagge's patient lived for five and a half years. The operative mortality from sarcoma has been 43.6 per cent. and rapid recurrence is the rule. The operative mortality for myoma has been 28.5 per cent. and recurrence is liable. Weinrich stated that Nitze had removed 101 papillomata by his intravesical technic, and 72 cases have been followed to date without a recurrence. There has been recurrence in 18 cases; the others have been lost to sight. Cathelin exhibited some new instruments to facilitate his technic of perineo-suprapubic prostatectomy. Several speakers urged that the fact of there being only one kidney should not deter from surgical intervention. One reported a case of severe hematuria with a single kidney cured by decapsulation. Another cured a patient in uremic coma by decapsulation of the remaining kidney after removal of the other kidney two years before on account of tuberculosis. One speaker reported clinical cures even in advanced stages of tuberculosis of the kidneys. In 3 such cases the nephrectomy was followed by the entire subsidence of all the lesions in the bladder and prostate.

French Congress of Surgery.—The eighteenth congress met at Paris during the first week in October, immediately after the first International Congress of Surgery. The subjects appointed for discussion were "Surgery of the Pancreas," "Reparative Surgery of the Face," and "Conservation in Treatment of Traumatisms of the Limbs." Nimier delivered the address on the last subject, emphasizing the fact that the modern surgeon should not only aim to preserve the injured parts by correcting the primitive lesions, applying the necessary bloodless measures, but he should also strive to restore function to the parts, with surgical intervention if necessary for this purpose from the very first, as soon as the diagnosis and the indications are established. Repair of the traumatic lesions is easily done, but functional repair requires persevering massage, mechanotherapy, hydrotherapy and electrotherapy. Massage has taken in surgery the place it deserves, but the other physical measures are still in a somewhat rudimentary condition. Hospitals should be better equipped for functional cures of traumatic lesions than is the case at present. Doyen reported the successful suture of a severed axillary vein. He used very fine, round needles, suturing at separate points, and fastening the stumps to the surrounding parts to prevent any traction on the suture. In case of complete destruction of the axillary vein, he suggested that the external jugular might be transplanted on the stump of the shoulder, anastomosing it with the cephalic vein. To facilitate the suture of a vein, he advises suction cleansing of the field with an aseptic tube connected with a suction pump. This aspirates every particle of blood, etc. Calot described a new method of treating congenital dislocation of the hip joint. He makes a very small incision, less than 2 cm. long, and introduces through this a special dilating instrument, with which, instead of cutting the stricture in the capsule, he stretches it. When the capsule is thus stretched, the dislocation can be easily reduced, as he has accomplished in two cases with excellent results. The discussion of surgery of the pancreas showed once more the difficulty of differentiating lesions in this organ. Garrè said that he was able to save only 3 out of 11 patients with acute purulent inflammation or infarcts in the pancreas.

Crusade Against Tuberculosis in the Argentine Republic.—Among the measures adopted by the Antituberculosis League of Argentina is the publication and distribution of 200,000 copies of a "catechism" with questions about tuberculosis, and the same number of copies of a circular with directions for its cure and prevention. These circulars are distributed to children in the schools and to the audiences at public gatherings and at religious services. Two large wall tablets have also been issued, which are hung up in factories, public halls, schools, etc. One gives the proportions of the mortality from various diseases in the sixteen largest cities of the country, the proportions being shown in colored sections of circles. In Corrientes the mortality from tuberculosis is considerably more than half the total mortality, and in all it has the "lion's share," except in the two hotbeds of malaria. The second placard has in display type "the Disease," "Contagion," and "Curability." The second column, "Contagion," gives illustrations of the bacilli, the diseased lung tissue, and of pocket and standard cuspidors. Under the heading of "Curability" are included the means of getting cured by life in the open air, plenty of light and air, food and rest. A list of the tuberculosis sanatoriums and dispensaries, existing or projected, is appended, the list concluding as follows: "Sanatoriums for children, none; country homes for convalescents, none; seaside sanatoriums for children, one, the Hospicio at Mar del Plato; capacity, 125 children." Another measure which has served to popularize the ideas in regard to prevention and cure of tuberculosis has been the printing of antituberculosis maxims on all the boxes of matches issued by the principal company. As 10,000,000 to 12,000,000 boxes are sold each month, this is regarded as a great aid in the propaganda. The isolation of the tuberculous is now accomplished in the public hospital at Buenos Ayres, as the curable applicants are sent to the public sanatorium and the incurable to the Muniz Hospital. The other hospitals have solved the problem of isolation by refusing tuberculous applicants altogether. An illustration of the placards is given in the last *Semana Medica*, with the address on the subject presented by E. R. Coni at the recent International Tuberculosis Congress.

LONDON LETTER.

The New Cancer Research Laboratories at the Middlesex Hospital.

Cancer research at the Middlesex Hospital may be said to have gone on for more than 150 years. Records of cases have been accumulated since 1747 and are now being investigated. The new cancer research laboratories have the advantage of receiving material from two different classes of cases—those seen in general hospitals and susceptible of amelioration by operation, and those seen in the infirmaries and progressing to a fatal end. The laboratories were opened in 1900, at the same time as the present cancer wing, which contains forty-nine beds for incurable cases. The first director of research was Dr. A. Foulerton and the present one is Dr. Lazarus-Barlow. Under the latter the facilities have been greatly extended. In 1900 the director had three assistants; now he has eight, including four trained paid assistants, two holders of research scholarships and two voluntary workers who are training for research. Each worker has a separate laboratory and there is still room for others. The laboratories are fitted with all the most recent apparatus for histologic, bacteriologic and biochemical work. There are also a workroom, where apparatus are constructed, altered or repaired; a preparation room, where the tissues, organs, etc., are hardened, embedded and cut; a library containing the most recent monographs on malignant disease and current periodical literature on the subject, and cold-storage rooms in the basement which are used for specimens. The specimens and material in all its forms are so well classified and catalogued that any case from the year 1747 onward may be investigated at short notice. Every member of the department undertakes at one time at least two pieces of work—one statistical, based on the accumulated data of years, and the other a piece of research. Annual reports are issued comprising not only the description of the researches, but also the pathologic findings in some 300 fresh cases of malignant disease.

Sir Frederick Treves on the Army Medical Service.

At a largely attended meeting of the Brighton and Sussex Medico-Chirurgical Society, Sir Frederick Treves delivered an address on the army medical service. He pointed out that the so-called hospital scandals of the Boer war five years ago led to an extremely violent attack on the army medical service, which was undeserved by a body of men who were endeavoring to make bricks without straw. Since that time the medical service has been reorganized, according to the advice of a commission of experts appointed by the government. The chief change made in the status of the army surgeon is that his promotion now depends on merit and not on seniority. He is sent to the Army Medical College for study before he advances any step. Any man who does unusually well at the examinations gets accelerated promotion. It is now possible for the army surgeon to qualify as a specialist and the number who have done is is extraordinary. When so employed special pay is given. The result is that the army is attracting the best men in the profession. The present field equipment, Sir Frederick thinks, is the best in the world. It leaves little to be desired; it is light, compact and elastic. The general result is that the army medical service is second to none in the world, possessing a corps of highly competent and most efficient medical officers, an up-to-date equipment, and a most carefully elaborated organization; but there are anomalies in the war office—the army medical department is under the control of an adjutant-general who is not a physician. In the Boer war the admissions to hospital were 746 per 1,000 for disease and only 34 for wounds. This meant that the great bulk of casualties were due to preventable disease. But the army doctor had practically no power in that direction. The casualties at the battle of Colenso were nothing to those caused by the men drinking the contaminated water of the Modder River when peacably crossing it on a perfectly calm day. The army surgeon should have a much freer hand than he has at present. Sir Frederick concluded by pointing out what appeared to him to be needed to make the army medical service as perfect as possible: 1, The director general should be the head of his department and be responsible for its efficiency and economical administration; 2, he should have direct access to the army council and to the secretary of state; 3, he should have control of the money voted for the medical service; 4, the service should remain as at present, under the supervision of the advisory board; 5, an efficient army medical reserve should be formed; 6, the combatant officer should have some knowledge of hygiene as applied to campaigning and barrack life, and a like knowledge of a still more elementary character should be possessed by the private soldier; 7, the army medical officer should be vested with such authority and provided with such personnel as would enable him to carry out those sanitary arrangements in the field which experience had proved to be essential to secure the minimum loss of life from disease.

The Evil of Street Noises: Town Clock Nuisance Abolished in Birmingham.

The unnecessary evil of some city noises is well illustrated by a letter written by a man who underwent an abdominal operation in Birmingham. He wrote to the lord mayor, asking him if the quarter-hours of the town clock could not be stopped every day from 10 p. m. to 8 a. m., and the hours muffled to half-tones, as the ear-splitting stridency of the notes greatly disturbed him during the night. The lord mayor declined to interfere on "the grounds that the clock is a public one and its consistent working is of the first importance to the inhabitants of the city." The *Lancet* discussed the question and thought that both from a humanitarian and a business standpoint the decision was wrong. A clock which clangs noisily at quarter-hour intervals throughout the night must be a serious drawback to the recovery of the sick within hearing of its sounds. Nor is the loud chiming of a clock by day and night necessary for business. Much of the din which prevails in large towns by day and by night is avoidable. This protest by the *Lancet* has been followed by the decision of the city council of Birmingham to adjust the automatic apparatus of the town clock so as to cut off the chiming mechanism between 7:30 p. m. and 5 a. m.

Professor Osler at Guy's Hospital.

A very enthusiastic welcome was given Professor Osler at Guy's Hospital, where he delivered an address to the Pupils' Physical Society on "The Life and Work of Sir Thomas Browne." He was welcomed by the venerable president of the society, Sir Samuel Wilks, and the members of the staff of the hospital. In commencing his address Professor Osler claimed from the audience the "customary indulgence which is always extended to the bibliomaniac." He said that he had long studied the works of Sir Thomas Browne and in proof of this he pointed to a large table in front of him covered with editions of that author's works in Latin, German, Dutch and French. Among these was a copy of "Urne Burial," which was stated to have belonged to one of the sons of Sir Thomas Browne. Of the "Religio Medici" Professor Osler said with some slight emphasis that it was given to the world by Browne before he was 30, and quoted the author's contention that the magnetic force of a man began to fail after that age. This, Professor Osler said, was a sufficiently serious reflection for certain advanced thinkers who at the present day considered that a man was fit to work up to 40. He was proceeding to say what would happen to a man after 40 when he was interrupted by loud cheers and laughter. He treated with sarcasm the statement attributed to him by the Canadian press that men past work should be anesthetized out of existence, and whenever he alluded to this topic he drew sympathetic cheers from his audience. The address was illustrated by lantern slides thrown on a screen. Great appreciation was evinced by the students when it was announced that Professor Osler had presented a complete edition of the works of Sir Thomas Browne to their society. The chairman, Dr. Frederick Taylor, in proposing a vote of thanks to Professor Osler, said that to all intents and purposes he was an Englishman and commented on the charm with which he had communicated the fruits of his own recreation, bibliography. In replying Dr. Osler spoke of the veneration he had always entertained for Guy's men and of the great debt he owed to his "revered teacher," Sir Samuel Wilks.

Increase of Lunacy in London.

The number of pauper lunatics in asylums, licensed houses, workhouses, and with relatives and friends, on Jan. 1, 1905, was 24,652, an increase of 704 on the figures for the corresponding date of 1904. The increase on the latter date on the number for 1903 was 996—the highest on record. The superintendents of the different asylums, in their reports, assign various causes for the amount of insanity which exists. Intemperance, worry and heredity are specified by the superintendent of the Banstead asylum. The medical superintendent of the Claybury asylum finds that alcohol is the exciting or predisposing cause of insanity in 33 per cent. of the males admitted, and in 18 per cent. of the females. At Colney Hatch hereditary influences were found in 23 per cent. of the cases and congenital defects in 7 per cent. In Hanwell 24 per cent. of the admissions were due to alcohol and 48 per cent. to heredity. Possibly the increase of insanity shown by the figures is more apparent than real, for there has been an increasing tendency of recent years to certify for asylum treatment cases of senile decay. The recoveries for the year 1904 show the following percentages: On the total admissions, 33.5; on the average number of patients resident, 7.6; on the total number under treatment, 6.25.

The Study of Tropical Medicine.

The winter session at the London School of Tropical Medicine was inaugurated by an address on "Scientific Research in Medicine," by Professor Nuttall. Since its opening, in October, 1889, the school has received 554 students, including 40 women graduates. For the present session 39 students have entered, the largest number on record. Professor Nuttall traced the great development of tropical medicine in recent years for which Lazear, Myers, Durron and Plehn and others had laid down their lives. He pointed out that medical research requires endowment and said that it is a grievous thing that in this country, where so much is done for charity, so pitiably little is done for the advancement of learning. The wealthy classes in this country ought, he thought, to imitate their brethren in America. In many institutions one man is expected to perform duties which in more enlightened Germany are allotted to two, three or more teachers, each provided with a living wage. Most teachers of science in Great Britain receive pittances of which few are sufficient and many totally inadequate.

Pharmacology

REPORT ON NOSTRUMS IN GERMANY.

Translated by Dr. Henry Leffmann, Philadelphia.

In a recent issue of the proceedings of the Dresden scientific society, "Isis," Dr. A. Beythein, director of the Dresden municipal laboratory, gives the results of examinations of some secret remedies sold in that neighborhood. The data are of value, because they are from trustworthy sources, and interesting as throwing light on the conditions in Germany. Some of the remedies are for domestic animals, but it seems not amiss to include these. As a positive identification, the German title is given with a free translation.

Einreibungsmittel fuer Staerken der Hautnerven.[1] Inunction for strengthening the cutaneous nerves. The advertisement stated that the preparation contained Iceland moss. None was found. The following ingredients were found in 100 c.c.: Alcohol, 22.24 grams; ammonia, 1.10 grams; fixed solids containing a carbonate, 1.55 grams. It was a solution of ammonia in dilute alcohol, with a little potassium carbonate and opodeldoc.

Spezial-Ambrosia. Special Ambrosia. This a greenish-yellow salve sold by a quack for aiding parturition. The price is 3.75 marks for a package weighing 125 grams (about $1.00 for 4 ounces). It was found to consist of lard, flavored with carroway oil.

Wurmkrautpulver. Wormwort powder. This was found to be composed of powdered tansy flowers.

Dr. Tschernich's Universal-Lungenkraut. Dr. Tschernich's Universal Lungwort. This was found to be a powder of the entire plant of *Galeopsis ochroleuca* (a member of the Labiatæ).

Brandwunden-Crême. Emulsion for Burns. This contained starch, glycerin, mineral oil, a plant-extract of undetermined source and a red coloring matter.

Salbe gegen Syphilis. Antisyphilitic Salve. This contained tallow, lard and beeswax.

Coza-pulver. Coza Powder. Coza is possibly a proprietary name. The preparation is extensively advertised as a remedy for the drink habit. It was found to contain baking soda, a small amount of some umbelliferous fruit and calamus.

Rippsche Heilsalbe. Ripp's healing salve. This was recommended for many skin diseases. It was found to contain turpentine, egg yolk, paraffin, beeswax, aluminum acetate, balsam of Peru, boric acid, salicylic acid, and an undetermined perfuming material.

Mittel gegen Fussschweiss. Remedy for sweating feet. This was found to be a 12 per cent. solution of formaldehyd.

Hygiensche Brilliantine Heliosa. This is the high-sounding title of a hair dye containing an ammoniacal solution of silver nitrate.

Bickmore's Wundkur fuer Pferde und Vieh. Bickmore's Gall Cure. This was found to be a mixture of vaselin, boric acid and alum, colored with ultramarine blue.

Heuschkel's Kolkodin. Kolkodin is probably a proprietary name. It is advertised as a cure for colic in horses. It is sold in two parts: one a white powder, the other a brownish liquid. The powder is a mixture of white arsenic (60 per cent.) and white sugar (40 per cent.). The liquid was a carminative tincture. (No dosage is mentioned in the report, but it is probable that the white powder is directed to be given in very small doses, a practice followed by some stablemen.)

Makrobion. This is a proprietary name of obvious derivation. It is sold as a promoter of longevity. It was found to contain common salt, diatomaceous earth, baking soda, Glauber's salt, and sodium phosphate.

Creating a Nostrum.

Advertisement is an inseparable part of the nostrum business. The demand for a nostrum is created by the shrewdly prepared and widely published declarations of the wily promoter. This is true whether one refers to the nostrum exploited to the laity or to the one which is so-called "strictly ethical," "for physicians' use only," or to the remedy which tries to exploit both the profession and the public. A piquant and spicy series of articles is now running in *Printers' Ink,* entitled "Forty Years an Advertising Agent," by Mr. George P. Rowell. At one time he did business with an advertiser in Halifax, N. S., who sold a medicine known as "Fellows' Hypophosphites." The success of this remedy was such that some shrewd business men bought the trademark, incorporated a company, retained the original owner as manager, stopped all advertising except in medical journals, and thereafter pushed the sale only among the medical profession. Mr. Rowell relates how the stock increased in value, and our readers are, of course, aware of the quantities of this preparation which are now sold because of the systematic pushing of the remedy through the medical press. Mr. Rowell goes on to relate how he began to realize the value of a trademark, and how much money there might be in the shrewd launching of a simple remedy for common ailments when well advertised and marketed under an attractive trademark name. Accordingly he sought some preparation of this kind and even advertised for a trademark which he might buy for this purpose. He received offers of remedies for moths, for ague, for spavin, etc., but none of them seemed to be what he wanted. He nearly bought Dr. Lyon's rights in his tooth preparations, but, at the last moment, Dr. Lyon begged off and the deal was not closed. While still searching for something which he could thus exploit, a medical student asked him why he did not use the rhubarb and soda compound which was a stock prescription at a certain hospital in New York City where the student was an interne. This, however, was a liquid, which made it unsuitable for the purpose. It was not for some time that Mr. Rowell learned from the student that it could be made in the form of tablets. He was much delighted to hear of this and felt that he had found the remedy which he wanted. Taking an attractive name was, of course, necessary for the preparation. It seems that the prescription contained rhubarb, ipecac, peppermint, aloes, nux vomica and strychnin. By taking the initial letters of these ingredients the name "Ripans" was made. This preparation was put on the market and vigorously pushed. The packages were gotten up in a convenient and attractive way for sale by the druggist. Mr. Rowell relates the careful way in which all details of advertisement and sale were worked out. His narrative may be taken as an illustration of the method by which many nostrums are originated. Some article which may be of more or less benefit when indicated is exploited as a cure-all, and by means of a catching name, meets a ready sale through the willingness of the public to accept the medical advice of one of whom they know nothing. In other words, if the shrewd promoter will provide the humbug and press the magic button of publicity, the people will do the rest.

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[1] The original text reads "Hauptnerven" (chief or head nerves), but I think this is a misprint for "Hautnerven" and have so translated.

Alcohol Percentage in Patent Medicine.

Among the many articles that are appearing in the newspapers, and which evidently emanate from the Press Bureau of the Proprietary Association, is an article bearing the superscription, "Alcoholic Percentage of the Tincture and Drug Compounds of the Dispensary of the U. S. Pharmacopeia." It appears as a double column table, and purports to show that the preparations of the Pharmacopeia contain as much alcohol, or more, than do patent medicines. Here are some of the shining examples:

	Alcohol. per cent.	Dose.
Tincture aloes and myrrh......	70.5	½ teaspoonful.
Tincture asafetida............	94	30 drops— 1 teasp'ful.
Tincture nutgall	84.6	1 to 3 teaspoonfuls.
Tincture jalap	62.6	1 to 2 teaspoonfuls.
Tincture guaiac	94	1 to 3 teaspoonfuls.
Tincture myrrh	94	15 to 30 drops.
Tincture squill	70.5	10 to 40 drops.
Tincture sanguinaria..........	56.4	30 to 60 drops.
Tincture podophyllum	84.6	5 to 15 drops.
Tincture quassia	32.9	1 teaspoonful.

Admitting that doses given are correct, what is the inference? That any of these tinctures might be given in doses of half-wineglassful, which is the average of the ordinary patent medicine bitters of the peruna or Hostetter type?

A tippler may tickle his palate with any alcoholic liquor from Peoria "rot-gut," Kansas "boot-jack," "Jersey lightning" or "Mexican pulque," but how long would his gustatory nerves appreciate the tincture of asafetida or of guaiac, or his digestive system recuperate under the tincture of jalap, of podophyllum or of blood root?

To show the care taken in compiling the list, the following examples are taken at random:

Ammoniated tincture of ergot alc........	56.4	per cent.
Tincture ferric chlorid..................	94	per cent.
Camphorated tincture of opium.........	90.24	per cent.
Tincture serpentaria	61.1	per cent.
Tincture serpentaria rhizome...........	84.6	per cent.
Tincture sumbul	61.1	per cent.
Tincture sumbul root..................	84.6	per cent.

The alcoholic percentage in tincture ferric chlorid and camphorated tincture of opium is given as nearly double what it really is. Note also the distinction in serpentaria and its rhizome and sumbul and its root and the great difference in the alcoholic strength of the respective tinctures. The fact that the rhizome and root, respectively, constitute the drugs proves that the alcohol percentages accredited the two tinctures for each of the two drugs are purely fictitious and suggests that the whole exhibit is faked up from some old family medicine or receipt book. Most of the alleged preparations are of British origin not used in this country. The entire production is of a most illiterate character and suggests that the Proprietary Association Press Bureau has been victimized by some one.

The Abolition of Secret Remedies.

When the American Medical Association undertook its proper duty of enlightening physicians as to the true composition of proprietary medicines, the step was hailed with delight by the profession, while, of course, there arose mutterings of anger from the camp of the unscrupulous manufacturers. Gradually the opposition is getting out into the light, so that it becomes possible to see who feels pinched by this great forward movement of the organized medical profession. Pharmaceutical manufacturers who have nothing to conceal welcome the advent of the Council on Pharmacy and Chemistry; but, unfortunately, in the last few years manufacturing and even retail pharmacy has become permeated with a spirit of deceit. For this state of affairs the ready gullibility of many thoughtless physicians is much to blame. To give the profession the actual facts is the task allotted to the Council on Pharmacy and Chemistry. Already physicians have been informed in regard to the acetanilid compounds, and seldom has a more important piece of work been laid before the profession. It is interesting to note that few, indeed, of the medical journals have mentioned the report of the Council on Pharmacy and Chemistry on the acetanilid compounds, though it appeared in The Journal of the American Medical Association over three months ago. This state of affairs is deplorable, but it is drawing to its close. Through its own state journals and through The Journal of the A. M. A., the profession now has control of its means of publicity. The Council on Pharmacy and Chemistry will ascertain the truth about our drugs, and the profession's press will disseminate the knowledge. One of the greatest reform movements of our time is thus well under way. Every physician will eagerly watch the march of coming events.—*Ohio State Medical Journal.*

War Against Quackery.

According to the *British Medical Journal,* an Austrian society for the repression of quackery will be formally constituted at a meeting to be held in the rooms of the Medical Society of Vienna on November 11. The French Congress for the Prevention of Unqualified Practice of Medicine, which was postponed last year, will be held in Paris from April 30 to May 3, 1906, under the presidency of Professor Brouardel. All communications relative to the congress should be addressed to M. Levassort, 2, Place des Vosges, Paris.

Prohibition of Advertising of Certain Secret Remedies in Germany.

In 1903 the confederated states of Germany formulated a short list of secret medicines, advertisement of which was prohibited. Some manufacturers evaded the law by changing the names of their products. On this account suit was recently brought against two manufacturers, one in Prussia and one in Baden. The Prussian court decided that the prohibition applied to the advertised name, and, the name having been changed, the article could be advertised without conflicting with the regulations. The Baden court decided the contrary, claiming that the product, not the name, was prohibited, and that it was forbidden to advertise it under any name.

Clergymen and Testimonials.

A very prominent anti-saloon worker, a clergyman, lately said that in shame he was compelled to admit that he had run across indubitable proof that there are ministers of the gospel who receive pecuniary commissions from the makers of alcoholic nostrums whose wares they recommend!—*Journal of the Medical Society of New Jersey.*

Correspondence

Laws Regulating Practice—American Academy of Medicine.

EASTON, PA., Nov. 18, 1905.

To the Editor:—I regret that an error of statement has crept in the otherwise most excellent synopsis of the report on the Laws Regulating the Practice of Medicine, read by the undersigned at the meeting of the American Academy of Medicine, as found in your issue of Nov. 18, p. 1596. The last sentence, reading: "The report favored having osteopaths represented on state medical examining boards," has its foundation in the discussion of the report. The report made no reference to the personality of a board of examiners. Its contention was that the general law should provide a test for all who wish to practice medicine, under this or that vagary, whether osteopathy, psychopathy, or what not, instead of, as at present, permitting special legislation, or special exemption; that this test should be on certain foundation subjects, and a special and limited license be given, which fact must be noted in every public announcement of the licentiate. Who should conduct the examinations was not mentioned. One would rather infer that they were to be under the care of the board of examiners of the state, who should possess a full license to practice medicine, and thus exclude all partially fitted persons.

CHARLES MCINTIRE.

Pathology of Amebiasis—An Acknowledgement.

MANILA, P. I., October, 1905.

To the Editor:—In the hurry of completing our article on the "Pathology of Intestinal Amebiasis," Dr. Musgrave and I omitted to give credit to whom credit was due. A certain number of the cases on which our statistics were based were cases at the First Reserve Hospital, in which Dr. R. P. Strong had done the autopsies either alone or assisted by Dr. Musgrave. The omission of this recognition was entirely unpremeditated, and we wish to express our sincerest apologies. In case the paper has gone to print[1] will you please give our acknowledgement space on another page? PAUL G. WOOLLEY.

Priority in Splenic Blood Research.

OMAHA, Nov. 16, 1905.

To the Editor:—My attention has just been called to an error made in my paper, "Indications for the Removal of the Pathologic Spleen," in THE JOURNAL, Sept. 2, 1905. Through some inadvertence I stated that Arteage preceded Dr. Edward T. Williams (not Williamson), of Boston, in the demonstration of nucleated red blood corpuscles in animal spleens. I find that this was an error and that Dr. Williams deserves priority in this matter, having published articles in *American Medicine*, April 26, 1902, and Nov. 28, 1903, on this subject.

B. B. DAVIS.

A Hint for the Anesthetist.—When it is necessary for the anesthetist to hold the patient's jaw forward, he will obviate much subsequent soreness by exerting the pressure on only one side at a time.—*Medical Standard.*

Marriages

ISAAC LEDERMAN, M.D., to Miss Hallie Streng, both of Louisville, Ky., November 22.

JAMES A. DIBRELL, M.D., to Miss Lula Beal, both of Little Rock, Ark., November 22.

CHARLES FAY AMOS, M.D., to Miss Susie Wanzer of Mesopotamia, Ohio, November 8.

JACOB DANIEL BROOK, M.D., Grandville, Mich., to Miss Mary Vander Velde, September 20.

METHE E. TRACY, M.D., Spickards, Mo., and E. W. EWING, M.D., Modena, Mo., October 25.

JOSEPH H. HINES, M.D., Atlanta, Ga., to Miss Cecelia Lopez of Charleston, S. C., November 15.

MURRAY A. STURM, M.D., New York City, to Miss Flora Rice, at Philadelphia, November 15.

JOSEPH C. ROTH, M.D., Upper Sandusky, Ohio, to Miss Lillian Ley of Tiffin, Ohio, November 22.

FRANK E. CLOUGH, M.D., Alliance, Neb., to Miss Louise Handke of Evanston, Ill., November 14.

CHARLES W. FALL, M.D., Fowler, Ind., to Miss Jeannette Barnhart of Frankfort, Ind., November 1.

ELISHA LEWIS SENCINDIVER, M.D., to Miss Mary Flick Stewart, at Martinsburg, W. Va., November 15.

L. L. BANKSTON, M.D., Tunica, Miss., to Miss Mai Leslie of Alligator, Miss., at Memphis, Tenn., November 8.

HENRY HAROLD BROWN, M.D., Philadelphia, to Miss Antoinette Fay Zimmerman, at Baltimore, November 15.

WILLIAM LEE GANNAWAY, M.D., Greendale, Va., to Miss Willie Belle Pierce, at Roanoke, Va., November 16.

J. PRESTON SENCINDIVER, M.D., to Miss Mollie Blanche Macgill of Catonsville, Md., at Baltimore, November 15.

C. FONTAINE-MAURY LEIDY, M.D., Philadelphia, to Miss Margaret Howard Ridgley of Towson, Md., November 25.

NORMAN ELLIS SARTORIUS, M.D., Tangier, Va., to Miss Ella Frances Schoolfield, at Pocomoke City, Md., November 15.

Deaths

James Montgomery Holloway, M.D. Tulane University Medical Department, New Orleans, 1857, professor of surgery and clinical surgery, Kentucky University Medical Department; surgeon for the Broadway Infirmary and the City Hospital of Louisville; member and president of the Mississippi Valley Medical Association in 1882; member of the Kentucky State Medical Society, died at his home in Louisville, November 13, from interstitial nephritis after a long illness, aged 71. Dr. Holloway began the study of medicine in Mississippi under the preceptorship of Dr. Harwood of Claiborne County. His first hospital appointment was at Touro Infirmary, New Orleans. In 1860 he settled in Madison County, Miss., and practiced there until the outbreak of the Civil War, when he enlisted as a private in the Eighteenth Mississippi Infantry, C. S. A. Soon afterward he was appointed regimental surgeon and was then placed in charge of the hospital service at Richmond until the close of the war. He was in active practice in Louisville continuously from that time until his final illness. He held chairs in several of the medical colleges, the first being that of anatomy in the University of Louisville; later he became professor of physiology and medical jurisprudence in the same institution, and afterward professor of clinical and operative surgery in the Kentucky School of Medicine and in the Louisville Medical College. He was one of the organizers of the Hospital College of Medicine in 1874, resigning his position in the Louisville Medical College at this time. He was professor of surgery in this institution for eight years, resigning again to take up the same work in Louisville Medical College. In 1898 he resigned from both of these college positions, when he became one of the founders of the Kentucky University Medical Department and was made emeritus professor of surgery, a position which he held until his death. In 1885 the degree of M.A. was conferred on him by Center College. In 1902 he served as president of the Association of Surgeons of the Army and Navy of the Confederacy.

Daniel E. Nelson, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1882, of Chattanooga, Tenn., member and ex-president of the Chattanooga and Hamilton County Medical Society; member and ex-president of the Tennessee

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[1] See JOURNAL A. M. A., Nov. 4, 1905, p. 1371.

State Medical Association; member of the American Medical Association and member of the House of Delegates of the same; a consistent and faithful attendant at all medical meetings; member of the staff of Erlanger Hospital, died at that institution November 9, two days after a fracture of the base of the skull, the result of a fall from his horse, aged 46. The local medical society, at a special meeting, adopted resolutions of regret, respect and appreciation.

Henry Hobart Maynard, M.D. Rush Medical College, Chicago, 1861, of Los Angeles, Cal.; assistant surgeon of the Eighteenth Iowa Volunteer Infantry, later surgeon of the Second Arkansas Volunteer Cavalry, and then chief surgeon of division during the Civil War; a member of the Medical Society of the State of California and the Los Angeles County Medical Society; superintendent of the Los Angeles County Hospital in 1886 and 1887, and professor of surgery in the College of Medicine of the University of Southern California until 1901, when he was made emeritus professor, died at Pacific Hospital, Los Angeles, November 4, from uremia, after an illness of a month, aged 69.

George Reed Morehouse, M.D. Jefferson Medical College, Philadelphia, 1850; a member of the American Medical Association, Philadelphia Philosophical Society and Philadelphia College of Physicians; a prolific medical writer and collaborator with Dr. S. Weir Mitchell, died at his home in Philadelphia, November 12, from nephritis, after an illness of two days, aged 76. At his funeral the following personal friends acted as pallbearers: Drs. S. Weir Mitchell, William W. Keen, Charles P. Turner, Henry C. Chapman, John H. Musser, J. Chalmers Da Costa, J. Coles Brick, and Persifor Frazer.

George N. Munsell, M.D. Harvard University Medical School, Boston, 1860, assistant surgeon of the Thirty-fifth Massachusetts Volunteer Infantry in the Civil War; in 1889 representative from the second district of his county; thirty-seven years a school committeeman; twenty-five years medical examiner of Barnstable County; some-time president of the county medical society; vice-president of the Massachusetts Medical Society, etc., died at his daughter's home in Hyannis, Mass., November 2, aged 69.

Alexander Tunstall, M.D. Bellevue Hospital Medical College, New York City, 1868, a veteran of the Civil War, in which he served as adjutant of the Sixth Virginia Infantry, Mahone's Brigade, C. S. A., died at his home in Norfolk, Va., November 10, after a lingering illness, aged 62. The Norfolk Medical Society, at a special meeting, adopted suitable resolutions and decided to attend the funeral in a body.

Rufus H. Bartlett, M.D. Rush Medical College, Chicago, 1879, a member of the American Medical Association; chief medical examiner of the Ætna Life Insurance Company in Chicago; a member of the Chicago Medical Society, Chicago Medicolegal Society, Chicago Pathological Society and Chicago Medical Examiners' Association, died at his home in Chicago, November 21, from typhoid fever, aged 50.

George William Larrick, M.D. University of Maryland School of Medicine, Baltimore, 1878, local surgeon of the Baltimore & Ohio Railroad; for many years a member of the Frederick County Board of Health and of the board of visitors to the Western State Hospital for the Insane at Staunton, died at his home in Middletown, Va., November 6, after two years of invalidism, aged 53.

Edwin Curtis Bidwell, M.D. Medical Institution of Yale College, New Haven, Conn., 1844; surgeon in the Union Army during the Civil War; for nearly forty years a practitioner of Vineland, N. J.; discoverer of the black-rot fungus which threatened to destroy the grape growing industry in 1879, died at his home in Vineland November 14, aged 84.

William C. Voight, M.D. University of California Medical Department, San Francisco, 1879, a member of the American Medical Association and of the Washington County (Minn.) Medical Society, one of the leading physicians of Stillwater, died at his home in that city, November 3, from cerebral hemorrhage, after an illness of one week, aged 58.

Charles Henry Langdon, M.D. College of Physicians and Surgeons in the City of New York, 1874, for twenty-eight years a member of the medical staff of the Hudson River State Hospital, a member of the American Medico-Psychological Society, County Society, died from exhaustion following a second operation for appendicitis, November 15, aged 47.

Eli M. Whitson, M.D. Cincinnati, 1873, a veteran of the Civil War; a member of the American Medical Association; a member and once president of the Grant County (Ind.) Medical Society, died from dysentery at his home in Jonesboro, Ind., November 7, after an illness of two days, aged 62.

Thomas W. Jones, M.D. Medical College of Ohio, Cincinnati, 1847, one of the organizers of the Ohio State Medical Society and for fourteen years treasurer and librarian of the organization; for twenty-eight years a resident of Columbus, Ohio, died at the home of his son in that city November 6, after a long illness, from senile debility, aged 83.

Frederick L. Meagley, M.D. Toledo (Ohio) Medical College, 1890, a member of the American Medical Association, formerly a practitioner of Findlay and Toledo, Ohio, but for two years past in charge of a hospital at Daytona, Fla., died at his home in that place, November 5, from tuberculosis, after a long illness, aged 35.

Fred Stewart Blachly, M.D. St. Louis College of Physicians and Surgeons, 1899, of Modena, Mo.; a member of the Medical Association of the State of Missouri and the Mercer County Medical Society, died at the Missouri Baptist Sanatorium, St. Louis, November 9, after an illness of three years, from paralysis, aged 38.

Joseph Veazey Wallace, M.D. University of Maryland School of Medicine, Baltimore, 1853, of Chesapeake City, Md.; a member of the Medical and Chirurgical Faculty of Maryland; some-time president of the Cecil County Medical Society, died at the home of his daughter, in Lewes, Del., November 16, aged 76.

Thomas Camille Giroux, M.D. New York University, New York City, 1869, *a veteran of the Civil War, attending surgeon* to the Eastern District Hospital, Brooklyn, for many years, died at his home in that city, November 3, from heart disease, after a long illness, aged 64.

John Hauenstein, M.D. Geneva (N. Y.) Medical College, 1844, for more than half a century a practitioner of Buffalo, N. Y.; in 1882 president of the Erie County Medical Society, died at his home in Buffalo, November 10, from senile debility, after an illness of two years, aged 84.

D. R. Bookwalter, M.D. Medical College of Ohio, Cincinnati, 1897, died at his home in Dayton, Ohio, November 14, from laryngeal tuberculosis, after an illness of several months. He was a member of the Montgomery County Medical Society and the Ohio State Medical Society.

Friedrich Karl Castelhun, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1852, a prominent German-American poet and practitioner of San Francisco, died at his home in that city, November 1, after an illness of almost eight months, aged 77.

Christopher Fawcett, M.D. University of Maryland School of Medicine, Baltimore, 1864, resident physician to the Union Protestant Infirmary for twenty-seven years; assistant surgeon United States Army 1864-1865, died at his home in Baltimore, November 11, aged 81.

Frank S. Hamlet, M.D. University of Vermont Medical Department, Burlington, 1892, a member of the American Medical Association, and a prominent practitioner of Gorham, Maine, was instantly killed by a fall from the roof of his house November 6, aged 41.

Michelborough Y. Cheatham, M.D. Medical College of Virginia, Richmond, 1872, superintendent of schools of Amelia County, Va., and for several years chairman of the county board of supervisors, died at his home in Amelia Courthouse, Va., November 9, aged 54.

Anthony M. Oldfield, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1872, committed suicide by shooting himself through the head while despondent on account of ill-health, at his office in Harbor Beach, Mich., November 3, aged 65.

Harry L. Hall, M.D. Medical Department of the Western Reserve University, Cleveland, 1882, for a long time township physician, died at his home in Mansfield, Ohio, from cerebral hemorrhage, October 29, after an illness of only a few hours, aged 69.

Isaac S. Herbein, M.D. Jefferson Medical College, Philadelphia, 1865, twelve years a justice of the peace, died at his home in Strausstown, Pa., November 14, after a prolonged illness, from nervous exhaustion, aged 69.

Louis Henry Dorwin, M.D. Miami Medical College, Cincinnati, 1872, a member of the Darke County Medical Society, died at his home in Gettysburg, Ohio, from diabetes, November 5, after an illness of two years, aged 57.

George F. Kalb, M.D. University of Maryland School of Medicine, Baltimore, 1902, of Cardiff, Md., died at the home of his parents in Catonsville, Md., November 3, from tuberculosis, after a long illness, aged 24.

Swan Hanson, M.D. (Years of Practice, Illinois), 1888, for several years trustee and alderman of Moline, Ill., died at his home in that city, October 30, from cerebral hemorrhage, after an illness of three days, aged 84.

James G. Boardman, M.D. Rush Medical College, Chicago, 1865, coroner of Stark County, Ill., for many years, died at his home in Bradford, Ill., from pneumonia, October 29, after a short illness, aged 65.

William E. Smith, M.D. Toronto University Medical Faculty, 1863, for twenty-eight years surgeon of the Michigan Central Railroad at St. Thomas, Ont., died at his home in that place, November 8, aged 68.

Andrew Lindsay, M.D. Jefferson Medical College, Philadelphia, 1855, of Bryn Mawr, Pa., died suddenly from heart disease in the railway station at Ardmore, Pa., November 9, aged 76.

Warren C. McManus, M.D. Howard University Medical Department, Washington, D. C., 1889, died at his home in Edgerton, Wis., November 8, from pneumonia, after a short illness, aged 44.

Phineas Sanborn Conner, M.D. Medical College of Ohio, Cincinnati, 1902, of Cincinnati, died at the Seton Hospital in that city, from pneumonia, November 11, after a short illness, aged 28.

Paul Grossman, M.D. University of Breslau, Germany, 1870, of Omaha, formerly a surgeon in the German army, died at Dobbrikow, Germany, October 13, from diabetes, after a long illness.

Thomas Clarke, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1860, died suddenly at his home in St. Catherine's Ont., November 5, from cerebral hemorrhage, aged 75.

George W. Lupfer, M.D. College of Physicians and Surgeons, Baltimore, 1881, of Neff's Mills, Pa., died suddenly from cerebral hemorrhage near Petersburg, Pa., November 2, aged 49.

G. F. Theodore Hoffmann, M.D. Rush Medical College, Chicago, 1861, died at his home in Niles, Ill., November 2, from bronchial pneumonia, after an illness of six days, aged 85.

Charles F. Cookes, M.D. Starling Medical College, Columbus, Ohio, 1882, died at his home in Columbus, November 1, from nephritis, after an illness of more than a year, aged 55.

Denis Collins, M.D. New York University, New York City, 1880, died at his home in Chicago, November 10, from cerebral hemorrhage, after an illness of seven weeks, aged 49.

William Dederick, M.D. County License, Indiana, 1897, died at his home in Warsaw, Ind., October 28, from carcinoma of the liver, after an illness of two months, aged 64.

Charles Carroll Shippen, M.D. University of Maryland School of Medicine, Baltimore, 1879, died at his home in Baltimore, November 6, after a long illness, aged 49.

Charles V. Bogue, M.D. Rush Medical College, Chicago, 1884, died suddenly from rheumatism at his home in Newport, Vt., November 8, aged 51.

Sarah J. Coe, M.D. Michigan, 1878, died at her home in Wilkesbarre, Pa., November 4, from paralysis, after an illness of three years.

Benjamin Genung, M.D. Brooklyn, 1869, of Brewerton, N. Y., died at his home in Baltimore, November 7, after an illness of six months, aged 34.

William F. Forien, M.D. Baltimore Medical College, 1899, died at his home in Baltimore, after an illness of six months, aged 34.

Henry C. Wohlgemuth, M.D. Cincinnati, 1854, died at his home in Springfield, Ill., November 11, aged 83.

Mark F. Hamilton, M.D. Philadelphia, 1878, died at his home in Cambridge, Maine, November 5.

Death Abroad.

R. A. Koelliker, M.D., formerly professor of comparative anatomy, physiology and embryology at Würzburg, died November 3, aged 88. *His* great manual of histology was published in 1852, and has appeared in many editions and been translated into several languages. He issued a volume of reminiscences in 1899 which contained a list of 245 articles which he has published on anatomy, physiology and similar allied sciences, and to this might be added 43 theses written under his supervision by his pupils. Since then he has contributed other important works to science. He is called the "father of cellular physiology," and to him we owe much of our knowledge of the nucleus of the cell and of normal histology, and of physiology in general.

Book Notices

Technique du Traitement de la Luxation Congenitale de la Hanche. By Dr. F. Calot. Avec 206 figures dans la Texte et 5 Planches. Paper. Pp. 293. Paris: Libraires de l'Académie de Médecine, 1905.

Calot's work of 294 pages on the technic of treatment of congenital hip dislocation is profusely illustrated. It aims to present the technic in such a way that any practitioner can treat congenital dislocation of the hip joint without the necessity for referring the child to a specialist, if the child is seen between the ages of 2 and 5. Calot first describes the differentiation of the condition as the child begins to walk, and then tells how to prepare the joint as a preliminary to reduction, and then the various steps of the reduction. He then describes the various types of cases that are liable to be encountered, and the modifications of the technic for older children, bilateral luxation, etc., with histories of cases belonging to each type, profusely illustrated before, during and after treatment.

A Treatise on Diagnostic Methods of Examination. By H. Sahli. Edited with additions by F. P. Kinnicutt, M.D., and N. B. Potter, M.D. Authorized Translation from the Fourth Revised and Enlarged German Edition. Coth. Pp. 1008. Price, $6.50 net. Philadelphia: W. B. Saunders & Co., 1905.

Sahli's work on clinical diagnosis has long been known in Germany as an authoritative one. This excellent translation will surely be appreciated by English readers, for it is in every sense worthy and even of superior merit. Every topic is discussed from a broad point of view and the close relations of anatomy, physiology and pathology to clinical phenomena are clearly set forth. It is in no sense a mere compilation; it is permeated everywhere with the spirit of the clinical and laboratory expert who describes methods, technic and results that have been tested by his own ripe experience and his original investigations.

The plan of the work includes the examination of the various organs and systems of the body by the methods of inspection, palpation, percussion, auscultation, etc., with full descriptions of the aids to be derived from instruments of precision, from bacteriology, chemistry and physics. Special methods of examination as in neurology are given in detail. All the chapters are excellent, though it seems to us that those on the examination of the heart, the stomach contents, the urine and the nervous system are exceptionally fine. The value of exploratory puncture as a diagnostic aid and its technic is admirably set forth; the chapter on cryoscopy is an up-to-date monograph; the description of the butyrometric method of examining the functions of the stomach by the method of Sahli and Seiler is a condensed statement of the results of valuable original research. Several tables are found that will prove of great service for reference; we may mention the one showing the substances that respond to the copper and the bismuth tests for sugar in the urine, the one showing the reactions of proteid bodies in the urine, and several in the chapter on the nervous system, as well as the outlines in the appendix, for the examination of the blood, nervous system, digestion, angina, etc.

We are somewhat surprised to find that the dimethylamidoazobenzol test for free HCl in the stomach had to be inserted by the editors. We feel that the so-called Hay's test (with sulphur) for bile in the urine deserves mention, as does peroxid of hydrogen as an oxidizing agent that may be used in some of the tests for indican or for blood in the urine. Bradycardia might perhaps be discussed more fully and esophagoscopy is not given the attention it merits. Only rarely do we find directions loosely given, e. g., those for making Lieben's iodoform test for acetone in the urine. "Some potassium hydrate and Lugol's solution are added to the urine, or better to its distillate" (p. 495). "Some" is altogether too inexact here. Pavy's method for the quantitative examination for sugar in the urine is rather severely condemned. We are pleased to note, however, that Sahli has recently (*Deutsche med. Woch.*, Sept. 7, 1905), reversed this decision and advocates Pavy's method with some slight modification. The value of the Roentgen rays in diagnosis is, we believe, underestimated by Sahli. He omits their consideration, he tells us in the preface, for the reason that he does not consider himself a competent radiologist capable of teaching others, and also because the x-ray examination can only be made by a limited number of practitioners who, in order to be able to do so, must go through a special training; his book is intended for the general education of the physician. The editors have aimed to supply this lack in the book by a few illustrations showing the results of x-ray examinations. Most of them are so poorly executed as to be of little value. Occasionally there is a figure that illustrates something to which no reference is made in the text. This is true of Plate 12—or else we have overlooked in the text and index the reference to Kernig's sign. In general the insertions by the editors are timely and appropriate, e. g., the notes concerning uncinariasis, blood-pressure instruments, etc. Not a few typographical errors are to be found. Thus a boric acid stone in the kidney is spoken of on p. 732, where evidently uric acid is meant.

While these few minor criticisms seem to us justified as we have glanced through the volume, we have no hesitation in recommending Sahli's work on diagnosis to student or practitioner. We believe it has no superior in any language.

THE ACCESSORY SINUSES OF THE NOSE and Their Relations to [illegible] Illustrated by Fifteen Colored Plates by G. [illegible] by R. Patterson, M.D., M.R.C.P., Atlas. Price. [illegible] : W. T. Keener & Co.

The superb drawings of this magnificent atlas enable one to acquire clear and definite mental images of the parts considered, whose labyrinthine intricacy is confusing even to the expert anatomist. In making the objects for the illustrations the mucous membrane lining the sinuses was hardened and stiffened by a formalin process, so that the soft parts formed a perfect cast of the cavities to which they adhered. This enabled Killian to show the accessory sinuses in an entirely new and striking way, that is, not as hollows in the ethmoid, sphenoid, frontal and superior maxillary bones, but as a cast of these hollows, a manner of display that produces singularly lucid mental pictures of the shape and location of the accessory sinuses of the nose. A great many fresh bodies were needed to complete the work, which extended over three years.

The artistic finish of the drawings is perfect and their clearness makes them readily understood. The anatomic relations of the sinuses to the orbit, the cranial cavity and the brain are made plain by fenestra made in the bones of the face, nasal fossæ and skull after removal of the outer soft parts. In this way, views of the sinuses through the outer nasal wall, and of the brain as it lies above the frontal sinuses, the ethmoidal cells and the sphenoidal sinuses are portrayed in a manner that is a revelation to those who have long wished to have a clear picture of these parts in their minds. Dissections of those parts of the brain liable to be involved in cerebral abscess due to sinus disease are also shown with their relations to the accessory cavities of the nose, and the optic nerves, the internal carotid arteries, the cavernous sinuses and the nerves of ocular motion are shown as they lie above the sphenoidal sinuses. The intricate grouping of the ethmoidal cells and Killian's new nomenclature of these cavities are made plain.

The text is full and clearly explains the plates, with the lessons to be drawn from their study; a great advantage over most atlases where the beholder is left to hunt out for himself the nature of the structures displayed in scantily lettered drawings without explanatory text; in fact, even without the plates the reading matter of Killian's atlas would give a very good conception of the subject and make an important monograph.

The practical side of the subject is dwelt on, especially in reference to Killian's great work in the surgery of the sinuses and to those wishing to perform his classic radical operation for empyema of the frontal sinus this atlas will be a great aid. The accessibility of cerebral abscess resulting from sinusitis is also thoroughly gone into. The neurologist, oculist and general surgeon will find the book of great value in the study of diagnostic problems, for it explains the difficult relations of the brain, cranial nerves and orbit to the air-containing cavities grouped about the nasal fossæ with a thoroughness and clearness that will save much time and study. The drawings are made from individual cadavers and, therefore, unavoidably contain special features pertaining to the individual body used. These moderate variations from what is typical, however, do not materially take from the value of the work, and it is preferable to have an exact picture of the parts as seen in nature in one subject than to have a composite drawing attempting to show a combination of the usual features in a number, for such drawings are apt to be schematic.

The translation has been done with great care and the difficult problem has been solved of selecting customary anatomic terms in use in Great Britain and America to correspond with the many different ones employed in Germany.

BIOGRAPHIC CLINICS. Vol. III. Essays Concerning the Influence of Visual Function, Pathologic and Physiologic, on the Health of Patients. By G. M. Gould, M.D. Cloth. Pp. 516. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co., 1905.

In the third volume of "Biographic Clinics" Dr. Gould continues in a characteristically vigorous manner his striking essays on the influence of the visual function on health. He discusses minutely the long invalidism of John Addington Symonds, and Taine, the celebrated French philosopher, historian and critic. As in his previous volumes, Dr. Gould sets forth the prominent rôle of uncorrected eyestrain in their life-tragedies of persistent and seemingly inexplicable physical and mental suffering. There is an extensive chapter on the relation of the newer ophthalmology to general medicine, biology and sociology, being an address read last year at the International Congress of Arts and Science in St. Louis. In Chapter VI the history and etiology of migraine is exhaustively considered, and numerous instances quoted to prove that very many cases of this *bête noir* of neurologists are due to ametropia. The optical and ocular influence in the etiology of spinal curvature and myopia of school children are given careful consideration and many original inferences are drawn and substantiated by striking illustrations. Dr. Gould claims that improper school desks and seats are neither the primary nor chief factors in the production of the faulty postures of school children, and that slanted handwriting, rather than a result of malposture, is in reality a method of lessening its pernicious consequences. Dextrality and sinistrality and their intimate relations with dextrocularity and sinistrocularity afford a wide field for investigation and reason. In a way, it may be said that by his forcible and original arguments Dr. Gould has pre-empted this subject as his own.

While appreciating the valuable and untiring work of the pathologists in the last two decades, Dr. Gould protests against the neglect to inquire with the same enthusiasm into the nature and methods of production of the morbid function which caused the special organic diseases, so capable of plain demonstration in the dead house and pathologic laboratory. After all our rapid advances in the domain of pathology the question recurs as to any explanation of structure except by precedent function. The essayist contends strenuously that in biology the visual function and its perversions have been an important conditioning factor of organic evolution and that the same factor is increasingly a source of evil and failure in all our sociology and pathology. Dr. Gould protests that a continuance of the past indifferent attitude of the medical profession to the importance of eyestrain is "illiberal, unscientific and self-stultifying." He urges that even in Great Britain and Germany the contemptuous appellation "American humbug" is no longer a satisfying corollary to the answer that there is no accurate or scientific demonstration of the relation of extraocular disease with eyestrain. Declaring that there is already a wealth of American articles in confirmation, Dr. Gould reproduces in his book two articles from Great Britain that he calls quite American, and almost Philadelphian, in their context and import. Mr. Simeon Snell, of Sheffield, writes exhaustively on eyestrain as a cause of headache and other reflex neuroses, and Mr. C. Ernest Pronger discourses entertainingly on the influences on the nervous system of slight errors of refraction.

The three volumes of "Biographic Clinics" have called forth much discussion, ranging from an enthusiastic praise to condemnation and contempt. That the author has been over-enthusiastic, dogmatic and emphatic has been frequently charged, perhaps with some justice. But to awaken a proper interest in such an important subject vigorous emphasis is needed. An ambiguous, timorous or apologetic brief would have fallen flat. On the other hand we fail to see what harm may follow the perusal of such entertaining and illustrative essays. Briefly the author's object is to prove by prominent biographic studies, periodical medical literature and individual experiences that, when not dependent on demonstrable organic disease, "symptoms and affections like headache, sick headache, loss of appetite, paroxysmal neuroses, cardiac palpitation or irregularity, chorea, epilepsy, neuralgia, insomnia and neurasthenia, which exhibit such waves of exacerbations and depression, may be due to ocular irritation." He makes a fervent plea for a careful examination of the refraction and musculature of the eyes in such cases, and contends that in many instances frequent re-examinations under artificial cycloplegia are necessary for the best results, even in patients past middle life. He insists that in all cases the examination should be made by a skilled ophthalmologist who has a proper belief in the importance of the careful correction of even the slightest refractive errors in cases of reflex disturbance.

Gray's Anatomy. Descriptive and Surgical. New American from the 15th English edition. Revised, enlarged and rewritten by J. Chalmers Da Costa, M.D., Professor of Surgery in the Jefferson Medical College, in collaboration with a corps of specially selected assistants. In one very handsome imperial octavo volume of 1,600 pages, with 1,132 illustrations, 500 of which are new in this edition. Price, with illustrations in black and many colors: cloth, $6.00 net; leather, $7.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

All the features which made the former editions of this standard work valuable are retained, while a number of new ones have been added. A profusion of colored illustrations much facilitate the study of the lymphatics, veins, arteries, etc. Fully 500 new illustrations have been inserted, bringing the number to 1,132, and presenting the various subjects from new standpoints. Both the old and the new nomenclature are given, the latter in brackets, and much of the text has been rewritten to introduce the new data. The revision by Da Costa has been thorough and able, and the sections on the Lymphatic System, Abdomen, Brain, Spinal Cord and Nervous System have evidently been entirely rewritten and much enlarged, although the general plan of the book remains unchanged. This brings the number of pages to 1,600, while the index has grown to 52 pages. The edition issued in 1901 had only 1,257 pages and 41 pages of index. The arrangement of the type is an improvement, the subject of the paragraph and the catch words being in larger black type instead of in italics, as in the older editions. The book is a fine specimen of typographical work, retaining the familiar features which make it so convenient for reference and study, and which established it as the standard Anatomy half a century ago, now brought down to date.

A Laboratory Guide in Bacteriology for the Use of Students, Teachers and Practitioners. By P. G. Heineman, Sc.B. Cloth. Pp. 143. Price, $1.50 net. Chicago: The University of Chicago Press, 1905.

The principal purpose in writing this manual, the author states, was to provide a guide for the medical student through an elementary course in bacteriology. No fault can be found with the result achieved. Special stress is laid on the proper instruction of a student inadequately prepared to comprehend the all-important methods of this comparatively new and rapidly advancing branch of biology. Technical proceedings have been described at the stage of application only. The course as outlined includes all well-known pathogenic bacteria, and acquaints the student with their biologic characteristics in such a way as to enable him to recognize them by the prescribed methods. All directions are given in a clear and concise form and cover the ground of bacteriologic technic. Methods for routine examination of air, water, and milk are also described, with practical dilution tables, applicable to serum work. The chapter treating of yeasts, *molds* and torulæ enables the instructor to select such material as he may deem proper for courses in non-medical bacteriology. The book is profusely illustrated, and a list of recipes for making up special culture media adds greatly to its usefulness.

Radium and Radio-Activity Substances. By C. Baskerville, Ph.D. Cloth. Pp. 164. Price, $1.00. Philadelphia: Williams, Brown & Earle.

This work is a full account of the latest and most important development in the field of radio-active substances. Special consideration is given to the best methods to be employed for demonstrating radio-activity, with a description of the apparatus to be employed. One chapter is devoted to the application of radium and radio-active substances in medicine. The book is well illustrated. We wish particularly to commend the index, which is full and complete.

Amerikanische Streiflichter von Carl Beck. Cloth. Pp. 246 Berlin, SW., 48; Verlag von Leonhard Simon NF., 1905.

Beck's "Side Lights on America" is a reprint of articles which were written for the edification and entertainment of the readers of various German medical journals. They are bright and clever sketches in lighter vein of the sessions of the American Medical Association and of the different congresses in this country and various American institutions and happenings. He waves aloft the banner of loyalty to his fatherland through all his remarks, and never misses an opportunity to expatiate on the influence of German science and instruction on the development of American medicine. The book can be heartily recommended to all physicians who wish to perfect themselves in the most modern "student" German while seeing the profession in America and our institutions "as ithers see us," and especially "ithers" with a stronge sense of humor. His genuine admiration and appreciation of America is gratifying to one's patriotism. These nineteen articles by Beck have undoubtedly contributed toward the present good understanding between scientists on both sides of the water.

A Text Book of Clinical Diagnosis by Laboratory Methods. For the Use of Students, Practitioners and Laboratory Workers. By L. N. Boston, A.M., M.D. Second Edition. 330 illustrations. Cloth. Pp. 563. Price, $4 net. Philadelphia: W. B. Saunders & Co., 1905.

It is a just compliment to Dr. Boston's work that in a year a second edition should be demanded. This book contains most compactly and yet fully stated information on clinical diagnosis. Especially is it to be commended because of its clear description of laboratory technic, but the interpretation of clinical findings, which is the purpose of such a treatise, is quite as commendable. One hundred and thirty-seven pages are devoted to the blood, its morphology, bacteriology and parasitology. As many more to urine, its chemistry and microscopy. Succeeding sections are devoted to gastric contents, feces, sputum and buccal and nasal secretions; discharges from ears, eyes and genitalia; transudates, exudates, cerebrospinal and synovial fluids, milk and diseases of the skin. Much new material has been added in this second edition.

Pathology and Morbid Anatomy. T. H. Green, M.D., F.R.C.P. Tenth American Revised from the English Edition, Revised and Enlarged by W. C. Bosanquet, M.A., M.D. One colored plate and 348 illustrations. Cloth. Pp. 610. Price, $2.75 net. Philadelphia: Lea Brothers & Co., 1905.

A book which has reached its tenth edition stands in no need of introduction. Pathology has undergone a most astonishing transforming growth, and each year there appears much that is new and that replaces entirely, in many instances, the older conceptions and theories. This has been most notable in the fields of animal parasitology and of immunity to infectious diseases. These subjects are dealt with fully in the present edition of this work. A most excellent chapter has been added dealing with autointoxication and nutritional diseases. Many new illustrations have also been added. The standard of excellence of former editions has been maintained by the present one.

Dissecting Manual, Based on Cunningham's Anatomy. By W. H. Rockwell, Jr., M.D. Flexible Cover. Pp. 306. Price, $2.00 net. New York: William Wood & Co.

This book is divided into five parts, corresponding to those usually assigned to the student, and in each of these the bones, articulations, muscles, vessels and nerves are grouped together. The descriptions are brief, evidently based on the supposition that the dissector is thoroughly familiar with the anatomy of the part, and that the dissection is intended merely to confirm the correctness of the student's knowledge of anatomy. It is incumbent on him to recognize the structure encountered without the assistance of a descriptive guide or illustration—a very serious objection to a dissecting manual. In fact, the book is little more than an epitome. It is not illustrated.

PHYSICIAN'S POCKET ACCOUNT BOOK. By J. J. Taylor, M.D. Leather. Pp. 216. Price, $1.00. Philadelphia: The Medical Council.

This is a neat, compact book for keeping the accounts of patients individually. Entries are made but once, thus effecting a saving in time. The book, it is claimed, will be admitted as evidence in court, as it is a book of "original record." There are index pages, allowing quick reference to the numbered account pages.

STATIC, HIGH FREQUENCY, RADIO, PHOTO AND RADIUM THERAPY. By W. H. King, M.D., LL.D. Cloth. Pp. 291. Price, $2.50. New York: Boericke & Runyon. 1905.

Evidently this book is intended for the tyro in electrotherapy for the purpose of presenting to him, in concise form, a description of the apparatus needed, and what it can be expected to achieve in the way of results. The work covers only the subjects embraced in the title and does not pretend to be a complete treatise on electrotherapy. It fills the purpose for which it is intended admirably. It is well illustrated.

Miscellany

"Bile Beans."—A curious and not uninteresting light was thrown on the nature of this much advertised and vaunted nostrum in the Court of Session the other day in Lord Ardwall's judgment in an action brought by the manufacturers of the remedy against an Edinburgh chemist to inderdict him from using the name "bile beans" for any pills other than those manufactured by them. The history of "bile beans," as set forth in the judgment, is as follows: In 1896 the complainer, then 21 years of age, was in business in Australia in connection with a stationery or printing business. He had no knowledge whatever of chemistry or medicine, but happened to get introduced to the other complainer, Charles Fulford, who, though not a qualified chemist, had served five years in a chemist's shop, and had been connected with the business of a medicine company. The two complainers went into partnership to carry on business as pill manufacturers, and first started the preparation of "Gould's tiny tonic pills," which, however, did not meet with the success anticipated. In the early part of November, 1899, Fulford told his partner that at 4 o'clock in the morning he had hit on a title for a new pill, namely, "bile beans for biliousness," and he prescribed a formula for it. The pill took in Australia, and Fulford proceeded to put it on the English market. Neither the company nor the partners manufactured the pills. Even their name was misleading. They merely sent the formula to manufacturing chemists to make the pill in millions. They advertised on an extensive scale, spending £300,000 in building up the business in the United Kingdom, and issuing 83,000,000 of small illustrated pamphlets for house-to-house distribution, as well as a large number of musical advertisements. If one might judge from the way in which it was perpetually set forth in the forefront of their advertisements, the foundation-stone of their success was the false and fraudulent statement that bile beans were for the most part composed of a natural vegetable substance which Fulford discovered in Australia, which for ages had brought health and vigor to the natives of that island continent, and which was now being introduced for the benefit of civilized nations. One of the latest advertisements was entitled "Strange Japanese Customs," in which it was said, "Some years back Charles Forde, an eminent scientist, thoroughly investigated the healing extracts and essences of Australian roots and herbs, and after long research he found himself the discoverer of a natural vegetable substance which had the power of acting in the human system in the same way as Nature's own animal substance bile, and which was beyond all doubt the finest remedy yet discovered for all liver and digestive disorders." This statement, said the judge, was both false and fraudulent. There was no such person as Charles Forde, his true name being Fulford; he was not an eminent scientist, having had no scientific training and no standing whatever as a chemist or anything else; he never investigated the healing extracts and essences of Australian roots and herbs; he never made any research; he never was the discoverer of a natural vegetable substance which acted like animal bile. In fact, no such substance existed, and no such substance formed the part of bile beans, which were compounded by wholesale chemists in America out of drugs which they had in stock, no one of which had anything specially to do with Australia. The changes were rung on this wonderful discovery in every pamphlet and advertisement of the complainers. The judge had no doubt that their business was founded entirely on fraud, impudence and advertisement, though it might be that the pill was as effective as any ordinary pill so compounded to act as a cholagogue or ordinary laxative medicine; but it seemed certain that these beans would never have taken hold of the public as they had done except for "the foundation fiction of their being the product of a Great Discovery of an Ancient Australian Medicine by an Eminent Scientist using the most Advanced Scientific Methods and Apparatus."—*Medical Press* (London), Sept. 20, 1905. [Bile beans was a much advertised "patent" medicine in this country a few years ago, but it seems to have had its day.]

Asepsis in Obstetrics.—Cox, in the *Wisconsin Medical Journal*, discusses this subject with a special reference to asepsis in obstetrics in private practice. He states that we can keep as aseptic in a clean room in a well-appointed house as we can in the maternity wards of a crowded hospital, where the danger of infection is tenfold greater than it is in the ordinary American village or town home. The great trouble with many of us is that we hesitate in enforcing our own ideas of cleanliness. When called on to attend a case of confinement, if time and circumstances permit, we should see to it that the obstetric room is made as aseptic as possible. All carpets and heavy draperies should be removed, and all furniture washed in a strong solution of bichlorid of mercury or lysol. If possible insist on new mattresses and bedding. Strong lye or formaldehyd will very effectively sterilize the ordinary house floor. A common potato sprayer will carry the same solution to the walls and ceilings. If possible, the spraying should be done daily for several days prior to the accouchement. The use of the powerful antiseptic has almost entirely annihilated puerperal fever, which, we know, is frequently caused by the entrance, through some wound or abrasion, of some poisonous material into the blood. In the simplest and most natural labors slight tears are apt to exist, involving either the cervix uteri or perineum. Dirty hands, dirty finger nails, unclean napkins, soiled clothing or bedding, may be the cause of grave trouble.

A nurse should not be allowed to touch the genitalia of a patient without first thoroughly disinfecting her hands in a strong solution of formaldehyd or alcohol. Finger nails should be trimmed closely, and the stumps soaked in some strong germicidal solution. It seems hard to make the ordinary nurse understand that antiseptic means against sepsis, or putrefaction. The genital organs of the patient should be made aseptic, or as clean as possible, at the commencement of labor. Shaving the genitals is a good but not imperative practice. Any clothing that may come in contact with her should at least be washed in boiling water and ironed. The complete sterilization of all clothing is practical even outside of hospital life. The hands of the obstetrician must be thoroughly cleansed. It is not at all impracticable for us to carry in our obstetric outfits carbolic acid, lysol, permanganate of potassium and bichlorid of mercury. These, with formaldehyd and absolute alcohol, should be sufficient to make safe sterilization and disinfection in every case possible.

The use of the vaginal douche, the author believes, should be judged for the individual case. In those cases in which there is an offensive lochial discharge, an antiseptic douche should be used. Great care should be exercised, however, that this douche be given aseptically; that all apparatus necessary for giving such douche should be properly sterilized. If the nurse in attendance does not understand asepsis, it is best for the physician either to give the douche or to give definite instructions as to the method of procedure. The same rigid supervision must obtain in the use of the catheter. The great majority of nurses in attendance on obstetrical cases in small villages and rural districts know nothing of the aseptic precautions necessary in catheterization. The author believes that no patient is so deeply buried in septic filth but that asepsis or antisepsis may be carried out to a certain degree. He urges the use of one's wits to secure clean material for a bed in even the most isolated cases. He summarizes the treatment as follows: "Observe in every case absolute cleanliness, surgical cleanliness. It pays. When there exists the slightest possibility that the hands of the obstetrician may be infected or that the genital organs of the woman may conceal local germs of infection, then redouble all efforts at sterilization. The healthy, ordinary secretions of the vagina are in their effects antiseptic. Nature has here, as in many other places, interposed conservatively for the welfare of the patient. It is only when, in our bungling insanitary ministrations, we overwhelm the guardian of the citadel with hostile germs that danger results. With this natural safeguard, if we allow the parturient woman to become infected through our neglect, it is little short of a crime.

Newspaper Notoriety in Germany.—Judging from an editorial in the *Deutsche med. Wochft.*, October 12, some of our brethren in Germany have the same itching for newspaper advertising which is too much in evidence with us. We quote: "A form of advertising practiced by certain physicians is too intangible to be made the subject of a complaint before the Medical Court of Honor, and yet is unworthy of the profession and detracts from the prestige of its members. The ever-increasing tendency to strive to be talked about on every opportunity is not becoming to members of a dignified profession. Scarcely any other academic profession supplies so much purely personal material to the daily papers. Professor So-and-So is celebrating his fiftieth, sixtieth, seventieth birthday or his thirtieth, fortieth, fiftieth anniversary as physician, docent, professor or member of the privy council. In the illustrated papers appears the picture of Professor X at the bedside, surrounded by a staff of assistants, nurses and grateful patients, or of Professor Y in the office, in the laboratory, at an operation, or perhaps in his automobile. Among the 'Local Happenings' appears the item that Prince A has entered the private hospital of Dr. B; that Dr. C has been summoned to D for a consultation, or that Professor E has been made corresponding or associate member of some medical association in southern Russia, and so on. Still more regrettable is the publication in the lay press of purely scientific observations, especially when they lay before the public questions which are still unsolved and on which there are still differences of opinion. Their presentation to the public in this way has a tendency to cause the public to distrust the whole of medical science. In a recent debate von Hansemann referred to the good old days 'when it was still the custom to present scientific matters only to the scientific public. Unfortunately things are different now, and when any one thinks he has made a discovery he goes at once to one of the weeklies or dailies or to congress, and, of course, the public learns more about it than if it had been published in Virchow's *Archiv* or any other exclusively medical publication.' Recently another mode of obtaining publicity has come into vogue. We read in the papers, a few months ago, that a certain surgeon had just performed his thousandth operation in a special field, and that his fellow-citizens celebrated this unusual event with a reception and congratulations. Not long ago we noticed in a daily paper from a neighboring country that a clinician there had just performed his two-thousandth herniotomy, and that on this joyful occasion he had received an ovation in his clinic." The editorial concludes: "We gladly acknowledge that many items of this nature appear without the knowledge of the celebratee and are sincerely distasteful to him, but there is no doubt that in a large number they are directly inspired or at least favored or tolerated by the one whose name is mentioned. All the members of the medical profession must unanimously strive to change this state of affairs. Especially should the 'upper ten thousand' scorn and set their faces against these newspaper notices."

Physicians and Public Hygiene.—We hear now and then of the force of awakened public sentiment. The very phrase implies that public sentiment sometimes sleeps, and while awakening and rubbing its eyes and getting its bearings, your practical politician, who never sleeps, will snatch the prize for which he is scheming—the control of public affairs, the key of the public treasury. What is needed in this land and in this day is a live, active, wideawake, always vigilant public sentiment, not one which needs awakening or is only aroused into action by some public or official scandal. In this respect no class can set a better example than the members of the profession to which we belong; none, I fear, is more apt to feel that these matters need not engage their attention. We are, I take it, united as to the necessity of clean and well-paved streets, of a pure water supply, of an efficient system of sewage for our cities and towns, and yet of the hundreds of doctors who realize the importance of these matters, how many personally take the pains to help secure the best men and the most efficient means to accomplish these things?—Hurd, in *Buffalo Medical Journal*.

Wisdom of Belgian Judges.—A Belgian neurologist, Dr. Famenne of Florenville, conducts a family sanitarium for nervous diseases, and among his patients last year was a man of 32 who seemed to have lost all interest in life. For more than a year he had done nothing but eat, drink, sleep and wander around. He was not neurasthenic, but slightly paranoiac, and was sent to the sanitarium by a physician at Charleroi. Treatment included psychic re-education, manual labor and hydrotherapy. Among the tasks imposed by Dr. Famenne to interest, encourage and train the young man was the translation of an English work describing cures of cases of neurasthenia. He translated 40 out of the 170 pages of the book, under the doctor's supervision and encouragement. After leaving the sanitarium the young man sued the physician for $60 in payment for the translation of this work. The first court condemned the physician to pay this amount, with costs. Appeal to a second court confirmed this sentence, but reduced the remuneration for the translation to $30. The final court of appeals, however, reversed the decision and imposed the costs of the suit on the plaintiff.

Minor Points in Obstetrics.—A German confrère states that the degree of relaxation of the soft parts during a delivery may be estimated from the behavior of the lower eyelid. The floor of the pelvis yields parallel to the facility with which the lower lid can be everted. His communication was published in the *Med. Klinik*, No. 26. Winkler has also recently called attention to the necessity for warmth as a means of promoting delivery. It is a physical process, and as such is attended by expenditure of heat. If the organism is weak from anemia, fatigue or chilliness, the physical process proceeds with less energy, and it may prove necessary to resort to forceps. Before doing so, however, the patient should be thoroughly warmed, which may restore sufficient energy for delivery to terminate spontaneously. His experience has been that a warm tub bath or a sitz bath with cloths wrung out of hot water applied to the thighs and a hot foot bath are liable to start vigorous contractions. Hot drinks are valuable adjuvants. The position in the sitz bath also favors expulsion, the weight of the child and the heat irritating the lower segment of the uterus. The *Gaz. Méd. Belge* for September 28 summarizes both the above communications.

Resuscitation by Direct Massage of the Heart.—Another instance is related by Sencert, of Nancy, France. The patient was a man of 51, who had undergone an operation for gallstones, under chloroform, in 1904, without mishap. During a second laparotomy, last April, he took the chloroform well, but during the search for the obstruction in the biliary passages the rectus muscles contracted and respiration stopped abruptly. The usual measures not bringing relief in seven minutes, Sencert inserted his hand through the laparotomy wound and was able to grasp the lower part of the heart in his hand, notwithstanding the interposition of the diaphragm. He then stroked it rhythmically with his thumb in front and his fingers at the back of the organ. In five minutes after this had been commenced the heart began to grow hard and larger, and in a few moments he felt a spontaneous contraction. The contractions grew gradually stronger and stronger, the pulse returned, and the patient began to breathe. The surgeon sutured the abdomen at once, and the patient recovered without further trouble except for slight transient intercostal pains. A detailed description of the case is given in the *Jour. de Méd. de Paris*, Sept. 24, 1905.

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Evidently this book is intended for the tyro in electrotherapy for the purpose of presenting to him, in concise form, a description of the apparatus needed, and what it can be expected to achieve in the way of results. The work covers only the subjects embraced in the title and does not pretend to be a complete treatise on electrotherapy. It fills the purpose for which it is intended admirably. It is well illustrated.

Miscellany

"Bile Beans."—A curious and not uninteresting light was thrown on the nature of this much advertised and vaunted nostrum in the Court of Session the other day in Lord Ardwall's judgment in an action brought by the manufacturers of the remedy against an Edinburgh chemist to inderdict him from using the name "bile beans" for any pills other than those manufactured by them. The history of "bile beans," as set forth in the judgment, is as follows: In 1896 the complainer, then 21 years of age, was in business in Australia in connection with a stationery or printing business. He had no knowledge whatever of chemistry or medicine, but happened to get introduced to the other complainer, Charles Fulford, who, though not a qualified chemist, had served five years in a chemist's shop, and had been connected with the business of a medicine company. The two complainers went into partnership to carry on business as pill manufacturers, and first started the preparation of "Gould's tiny tonic pills," which, however, did not meet with the success anticipated. In the early part of November, 1899, Fulford told his partner that at 4 o'clock in the morning he had hit on a title for a new pill, namely, "bile beans for biliousness," and he prescribed a formula for it. The pill took in Australia, and Fulford proceeded to put it on the English market. Neither the company nor the partners manufactured the pills. Even their name was misleading. They merely sent the formula to manufacturing chemists to make the pill in millions. They advertised on an extensive scale, spending £300,000 in building up the business in the United Kingdom, and issuing 83,000,000 of small illustrated pamphlets for house-to-house distribution, as well as a large number of musical advertisements. If one might judge from the way in which it was perpetually set forth in the forefront of their advertisements, the foundation-stone of their success was the false and fraudulent statement that bile beans were for the most part composed of a natural vegetable substance which Fulford discovered in Australia, which for ages had brought health and vigor to the natives of that island continent, and which was now being introduced for the benefit of civilized nations. One of the latest advertisements was entitled "Strange Japanese Customs," in which it was said, "Some years back Charles Forde, an eminent scientist, thoroughly investigated the healing extracts and essences of Australian roots and herbs, and after long research he found himself the discoverer of a natural vegetable substance which had the power of acting in the human system in the same way as Nature's own animal substance bile, and which was beyond all doubt the finest remedy yet discovered for all liver and digestive disorders." This statement, said the judge, was both false and fraudulent. There was no such person as Charles Forde, his true name being Fulford; he was not an eminent scientist, having had no scientific training and no standing whatever as a chemist or anything else; he never investigated the healing extracts and essences of Australian roots and herbs; he never made any research; he never was the discoverer of a natural vegetable substance which acted like animal bile. In fact, no such substance existed, and no such substance formed the part of bile beans, which were compounded by wholesale chemists in America out of drugs which they had in stock, no one of which had anything specially to do with Australia. The changes were rung on this wonderful discovery in every pamphlet and advertisement of the complainers. The judge had no doubt that their business was founded entirely on fraud, impudence and advertisement, though it might be that the pill was as effective as any ordinary pill so compounded to act as a cholagogue or ordinary laxative medicine; but it seemed certain that these beans would never have taken hold of the public as they had done except for "the foundation fiction of their being the product of a Great Discovery of an Ancient Australian Medicine by an Eminent Scientist using the most Advanced Scientific Methods and Apparatus."—*Medical Press* (London), Sept. 20, 1905. [Bile beans was a much advertised "patent" medicine in this country a few years ago, but it seems to have had its day.]

Asepsis in Obstetrics.—Cox, in the *Wisconsin Medical Journal,* discusses this subject with a special reference to asepsis in obstetrics in private practice. He states that we can keep as aseptic in a clean room in a well-appointed house as we can in the maternity wards of a crowded hospital, where the danger of infection is tenfold greater than it is in the ordinary American village or town home. The great trouble with many of us is that we hesitate in enforcing our own ideas of cleanliness. When called on to attend a case of confinement, if time and circumstances permit, we should see to it that the obstetric room is made as aseptic as possible. All carpets and heavy draperies should be removed, and all furniture washed in a strong solution of bichlorid of mercury or lysol. If possible insist on new mattresses and bedding. Strong lye or formaldehyd will very effectively sterilize the ordinary house floor. A common potato sprayer will carry the same solution to the walls and ceilings. If possible, the spraying should be done daily for several days prior to the accouchement. The use of the powerful antiseptic has almost entirely annihilated puerperal fever, which, we know, is frequently caused by the entrance, through some wound or abrasion, of some poisonous material into the blood. In the simplest and most natural labors slight tears are apt to exist, involving either the cervix uteri or perineum. Dirty hands, dirty finger nails, unclean napkins, soiled clothing or bedding, may be the cause of grave trouble.

A nurse should not be allowed to touch the genitalia of a patient without first thoroughly disinfecting her hands in a strong solution of formaldehyd or alcohol. Finger nails should be trimmed closely, and the stumps soaked in some strong germicidal solution. It seems hard to make the ordinary nurse understand that antiseptic means against sepsis, or putrefaction. The genital organs of the patient should be made aseptic, or as clean as possible, at the commencement of labor. Shaving the genitals is a good but not imperative practice. Any clothing that may come in contact with her should at least be washed in boiling water and ironed. The complete sterilization of all clothing is practical even outside of hospital life. The hands of the obstetrician must be thoroughly cleansed. It is not at all impracticable for us to carry in our obstetric outfits carbolic acid, lysol, permanganate of potassium and bichlorid of mercury. These, with formaldehyd and absolute alcohol, should be sufficient to make safe sterilization and disinfection in every case possible.

The use of the vaginal douche, the author believes, should be judged for the individual case. In those cases in which there is an offensive lochial discharge, an antiseptic douche should be used. Great care should be exercised, however, that this douche be given aseptically; that all apparatus necessary for giving such douche should be properly sterilized. If the nurse in attendance does not understand asepsis, it is best for the physician either to give the douche or to give definite instructions as to the method of procedure. The same rigid supervision must obtain in the use of the catheter. The great majority of nurses in attendance on obstetrical cases in small villages and rural districts know nothing of the aseptic precautions necessary in catheterization. The author believes that no patient is so deeply buried in septic filth but that asepsis or antisepsis may be carried out to a certain degree. He urges the use of one's wits to secure clean material for a bed in even the most isolated cases. He summarizes the treatment as follows: "Observe in every case absolute cleanliness, surgical cleanliness. It pays. When there exists the slightest possibility that the hands of the obstetrician may be infected or that the genital organs of the woman may conceal local germs of infection, then redouble all efforts at sterilization. The healthy, ordinary secretions of the vagina are in their effects antiseptic. Nature has here, as in many other places, interposed conservatively for the welfare of the patient. It is only when, in our bungling insanitary ministrations, we overwhelm the guardian of the citadel with hostile germs that danger results. With this natural safeguard, if we allow the parturient woman to become infected through our neglect, it is little short of a crime.

Newspaper Notoriety in Germany.—Judging from an editorial in the *Deutsche med. Wochft.*, October 12, some of our brethren in Germany have the same itching for newspaper advertising which is too much in evidence with us. We quote: "A form of advertising practiced by certain physicians is too intangible to be made the subject of a complaint before the Medical Court of Honor, and yet is unworthy of the profession and detracts from the prestige of its members. The ever-increasing tendency to strive to be talked about on every opportunity is not becoming to members of a dignified profession. Scarcely any other academic profession supplies so much purely personal material to the daily papers. Professor So-and-So is celebrating his fiftieth, sixtieth, seventieth birthday or his thirtieth, fortieth, fiftieth anniversary as physician, docent, professor or member of the privy council. In the illustrated papers appears the picture of Professor X at the bedside, surrounded by a staff of assistants, nurses and grateful patients, or of Professor Y in the office, in the laboratory, at an operation, or perhaps in his automobile. Among the 'Local Happenings' appears the item that Prince A has entered the private hospital of Dr. B; that Dr. C has been summoned to D for a consultation, or that Professor E has been made corresponding or associate member of some medical association in southern Russia, and so on. Still more regrettable is the publication in the lay press of purely scientific observations, especially when they lay before the public questions which are still unsolved and on which there are still differences of opinion. Their presentation to the public in this way has a tendency to cause the public to distrust the whole of medical science. In a recent debate von Hansemann referred to the good old days 'when it was still the custom to present scientific matters only to the scientific public. Unfortunately things are different now, and when any one thinks he has made a discovery he goes at once to one of the weeklies or dailies or to congress, and, of course, the public learns more about it than if it had been published in Virchow's *Archiv* or any other exclusively medical publication.' Recently another mode of obtaining publicity has come into vogue. We read in the papers, a few months ago, that a certain surgeon had just performed his thousandth operation in a special field, and that his fellow-citizens celebrated this unusual event with a reception and congratulations. Not long ago we noticed in a daily paper from a neighboring country that a clinician there had just performed his two-thousandth herniotomy, and that on this joyful occasion he had received an ovation in his clinic." The editorial concludes: "We gladly acknowledge that many items of this nature appear without the knowledge of the celebratee and are sincerely distasteful to him, but there is no doubt that in a large number they are directly inspired or at least favored or tolerated by the one whose name is mentioned. All the members of the medical profession must unanimously strive to change this state of affairs. Especially should the 'upper ten thousand' scorn and set their faces against these newspaper notices."

Physicians and Public Hygiene.—We hear now and then of the force of awakened public sentiment. The very phrase implies that public sentiment sometimes sleeps, and while awakening and rubbing its eyes and getting its bearings, your practical politician, who never sleeps, will snatch the prize for which he is scheming—the control of public affairs, the key of the public treasury. What is needed in this land and in this day is a live, active, wideawake, always vigilant public sentiment, not one which needs awakening or is only aroused into action by some public or official scandal. In this respect no class can set a better example than the members of the profession to which we belong; none, I fear, is more apt to feel that these matters need not engage their attention. We are, I take it, united as to the necessity of clean and well-paved streets, of a pure water supply, of an efficient system of sewage for our cities and towns, and yet of the hundreds of doctors who realize the importance of these matters, how many personally take the pains to help secure the best men and the most efficient means to accomplish these things?—Hurd, in *Buffalo Medical Journal.*

Wisdom of Belgian Judges.—A Belgian neurologist, Dr. Famenne of Florenville, conducts a family sanitarium for nervous diseases, and among his patients last year was a man of 32 who seemed to have lost all interest in life. For more than a year he had done nothing but eat, drink, sleep and wander around. He was not neurasthenic, but slightly paranoiac, and was sent to the sanitarium by a physician at Charleroi. Treatment included psychic re-education, manual labor and hydrotherapy. Among the tasks imposed by Dr. Famenne to interest, encourage and train the young man was the translation of an English work describing cures of cases of neurasthenia. He translated 40 out of the 170 pages of the book, under the doctor's supervision and encouragement. After leaving the sanitarium the young man sued the physician for $60 in payment for the translation of this work. The first court condemned the physician to pay this amount, with costs. Appeal to a second court confirmed this sentence, but reduced the remuneration for the translation to $30. The final court of appeals, however, reversed the decision and imposed the costs of the suit on the plaintiff.

Minor Points in Obstetrics.—A German confrère states that the degree of relaxation of the soft parts during a delivery may be estimated from the behavior of the lower eyelid. The floor of the pelvis yields parallel to the facility with which the lower lid can be everted. His communication was published in the *Med. Klinik*, No. 26. Winkler has also recently called attention to the necessity for warmth as a means of promoting delivery. It is a physical process, and as such is attended by expenditure of heat. If the organism is weak from anemia, fatigue or chilliness, the physical process proceeds with less energy, and it may prove necessary to resort to forceps. Before doing so, however, the patient should be thoroughly warmed, which may restore sufficient energy for delivery to terminate spontaneously. His experience has been that a warm tub bath or a sitz bath with cloths wrung out of hot water applied to the thighs and a hot foot bath are liable to start vigorous contractions. Hot drinks are valuable adjuvants. The position in the sitz bath also favors expulsion, the weight of the child and the heat irritating the lower segment of the uterus. The *Gaz. Méd. Belge* for September 28 summarizes both the above communications.

Resuscitation by Direct Massage of the Heart.—Another instance is related by Sencert, of Nancy, France. The patient was a man of 51, who had undergone an operation for gallstones, under chloroform, in 1904, without mishap. During a second laparotomy, last April, he took the chloroform well, but during the search for the obstruction in the biliary passages the rectus muscles contracted and respiration stopped abruptly. The usual measures not bringing relief in seven minutes, Sencert inserted his hand through the laparotomy wound and was able to grasp the lower part of the heart in his hand, notwithstanding the interposition of the diaphragm. He then stroked it rhythmically with his thumb in front and his fingers at the back of the organ. In five minutes after this had been commenced the heart began to grow hard and larger, and in a few moments he felt a spontaneous contraction. The contractions grew gradually stronger and stronger, the pulse returned, and the patient began to breathe. The surgeon sutured the abdomen at once, and the patient recovered without further trouble except for slight transient intercostal pains. A detailed description of the case is given in the *Jour. de Méd. de Paris*, Sept. 24, 1905.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

BOOK ON MEDICINE FOR LAITY.

Adrian, Minn., Nov. 14, 1905.

To the Editor:—Will you kindly give me the name of a good safe work on popular medicine that a self-respecting physician can recommend to the laity? M. Sullivan.

Answer: "Personal Hygiene," by W. L. Pyle, M.D., is a good one, published by W. B. Saunders & Co., Philadelphia, $1.50. Another good work, by Lyman, Fenger and Belfield, $2.50, may be had of the W. T. Keener Co., Chicago.

RESTORATION OF FLABBY BREASTS TO NORMAL.

——, Ill.

To the Editor:—Is there anything you can recommend for the treatment of flabby breasts resulting from pregnancy and parturition? I shall be pleased to know of anything that will help to restore them to their normal condition, as I am frequently consulted in this condition. A. C., M.D.

Answer: The normal rotundity and plumpness of the breasts are due largely to the deposit of adipose tissue. During pregnancy, the glands develop and during lactation become more active, and the fatty deposits are somewhat absorbed. With the cessation of lactation there is a decline in size of the glandular elements, and this, at times, without a corresponding increase in adipose tissue. Especially is this apt to be the case if the patient is poorly nourished. At times there is seen a general atrophic process in the breast structures.

The patient should be in the best possible physical condition, by proper diet, exercise, baths, massage, etc. Constitutional diseases such as syphilis, tuberculosis or anemia, should receive proper attention. Locally, massage with oil is used with good effect in many of the "rest cure" establishments.

"IN VITRO."

——, Ill., Nov. 18, 1905.

To the Editor:—I see in many articles the phrase "in vitro," which I suppose means "during life." If English is superior to another language when the same meaning is conveyed, why is the Latin used? E.

Answer.—This amusing confusion of terms by our correspondent was duplicated by several well-educated and well-read physicians of whom we asked the meaning of "*in vitro.*" It is, therefore, of sufficient interest to receive explanation here: *Vitro* evidently comes from the Latin *vitrum* (glass), and the phrase means "in glass," i. e., "in the test tube" or "in test tube experiment." Our correspondent was probably thinking of "*intra vitam*" or "*in vivo*" (Latin *vivo*—to live; be alive; or *vivus*—having life), either of which may stand for "during life." We agree that it is better to use English than Latin phrases when the meaning is the same. In this case, however, the English "in the test tube" is a little more cumbersome.

KOPP'S BABY'S FRIEND.

Omaha, Aug. 22, 1905.

To the Editor:—What is the composition of the compound prepared by Mrs. J. A. and C. Robert Kopp, at York, Pa., and sold under the shop name of "Baby's Friend"? A patient of mine gave her three-days'-old baby four drops of the stuff and the child went into a stupor at once. The pupils were pin-pointed, skin cool, and the heart beat and the respirations were slow. I treated this case as one of opium poisoning, out it was twelve hours before my little patient was out of danger.

R. E. Eskildson, M.D.

Answer—A bottle of this preparation was purchased and the contents analyzed. According to the analysis, "Kopp's Baby's Friend" contains, in 100 c.c., 0.0719 gm. morphin sulphate; approximately 1/3 of a grain in one fluid ounce.

BULL'S COUGH SYRUP.

Morocco, Ind., Sept. 6, 1905.

To the Editor:—Can you give me the formula for "Dr. Bull's Cough Syrup"? Recently I was called to see a child twenty-three months' old who had drunk about an ounce of it. In an hour, when first seen, the symptoms were those of opium poisoning. In about twelve hours the child had several convulsions and spasms followed at intervals for twelve hours longer. The child then sank into a coma and died in the seventy-second hour with cardiac failure. Respirations were labored. The dose of the mixture as labeled is five drops for a child of two years.

J. W. Shafer, M.D.

Answer.—A bottle of this preparation was purchased in the open market and the contents analyzed. According to this analysis, "Bull's Cough Syrup" contains, in 100 c.c., 0.0534 gm. morphin sulphate; approximately ¼ of a grain in one fluid ounce.

State Boards of Registration

COMING EXAMINATIONS.

Wyoming Board of Medical Examiners, Cheyenne, December 6. Secretary, S. B. Miller, Laramie.

Examining Board representing the President and Fellows of the Medical Society of Delaware at Dover, and the Homeopathic Board, Wilmington, December 12. Secretary, P. W. Tomlinson, Wilmington.

Ohio State Board of Medical Registration and Examination, Columbus, December 12-14. Secretary, F. Winders, Columbus.

Medical Examining Board of Virginia, Richmond, December 12-15. Secretary, R. S. Martin, Stuart.

Board of Medical Examiners of Maryland, Baltimore, December 13-16. Secretary, J. McScott, Hagerstown.

State Board of Health of Missouri, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

Board of Medical Examiners State of California, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

California July Report.—Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners of the State of California, reports the written examinations held at San Francisco and Los Angeles, July 19-21, 1905. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 93, of whom 48 passed and 45 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Minnesota	(1902)	75
University of Pennsylvania	(1899)	76.7
Rush Med. Coll.	(1901) 78.7; (1903) 83.4; (1904)	76, 82
Cooper Med. Coll.	(1905)	75, 75, 75, 75.4, 75.8, 76.3, 76.5, 77.1, 77.4, 77.4, 77.8, 77.8, 79.3, 79.8, 80.1, 80.5, 81.5, 84.3, 84.6, 85.5.
University of California	(1905)	75, 77.4, 80.4, 83.3, 84.3
Cornell University	(1905)	80.7
University Southern California	(1905)	75, 77.6, 78.8, 79.5, 79.6, 79.6, 79.7, 79.8, 80.7, 81.8.
Johns Hopkins University	(1905)	79.4, 82.4
Medical College of Indianapolis	(1898)	75, 79.1
College of P. & S., Chicago	(1902)	75.8
Northwestern University, Chicago	(1905)	76.2

FAILED.

College.	Year. Grad.	Per Cent.
Denver & Gross College of Medicine	(1903) 52.3, (1905)	72.2
University of Louisville	(1882)	51.5
Columbus Med. Coll.	(1891)	50.2
Missouri Med. Coll.	(1877) 67.8; (1887) 64.4; (1896) 56.5; (1898)	61.8.
College of P. & S., Baltimore	(1904)	74
Chicago Med. Coll.	(1880)	61.6
College of P. & S., San Francisco	(1905)	69.4, 72.4
University of Southern California	(1905	19.4,* 65.5, 67.2, 69.3, 69.4, 69.7, 70.5 71.8, 72.3.
University of California	(1905)	71.6, 72.6
Medical College of Indiana	(1903)	61.6
American College of Med. and Surg.	(1905)	56.3
Cooper Med. Coll.	(1905)	18.3,*, 58.8, 64.4, 71
Hahnemann Med. Coll., San Francisco	(1901) 61.1; (1905)	73.2
University of Maryland	(1904)	73.4
Tulane University	(1905)	65.6
Kansas City Med. Coll.	(1894)	55
Washington University	(1903)	74
Marion-Sims Med. Coll.	(1897)	65.2
Marion-Sims-Beaumont Coll. of Med.	(1903)	67.8
Rush Med. Coll.	(1889) 64.2, (1901)	67.1
Cleveland Med. Coll.	(1895)	60.4
College of P. & S., Chicago	(1903)	71.6
University of New York	(1884)	72
University of Michigan	(1881) 72.1; (1889)	59.2
Northwestern University Med. Coll.	(1899)	66.4

* Took only 3 subjects.

Florida October Report.—Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of the State of Florida, reports the examination held at Jacksonville, Oct. 10-11, 1905. Ten questions were asked in each branch, and the percentage required to pass was 75. The total number of individuals examined was 28, of whom 3 failed and 1 withdrew from examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Jefferson Med. Coll.	(1905)	92.8
College of Medicine and Surgery, Detroit	(1904)	86.7
Woman's Med. Coll., Baltimore	(1904)	84.8
Baltimore Med. Coll.	(1905)	95
Baylor University, Texas	(1905)	82
Howard University	(1905)	87.4
University of Kentucky	(1903)	94.2
Bellevue Hosp. Med. Coll.	(1890)	93.4
Johns Hopkins University	(1901)	93.4
Royal College of P. and S., Edinburgh	(1882)	84
Meharry Med. Coll.	(1905)	75.1
Tulane University	(1905)	90, 94.7
University of Michigan	(1900) 87; (1904) 94.7; (1905)	86.5, 90.2
College of P. & S., Baltimore	(1903)	94
University of Georgia	(1905)	94
University of Maryland	(1905)	91.5
Vanderbilt University	(1905)	92.2

Western Reserve University	(1869)	75
Georgia Med. Coll., Augusta	(1905)	87.5
College of P. & S., New York	(1905)	92
FAILED.		
Meharry Med. Coll.	(1905)	53.2, 59.2
Jefferson Med. Coll.	(1866)	57

Vermont October Report.—Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Burlington, Oct. 10-12, 1905. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 11, all of whom passed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
University of Vermont..(1888) 76.4; (1897) 78.4; (1904 84, 89.9 (1905) 83.6, 84.6, 85.6, 88.1, 90.7..		
Jefferson Med. Coll	(1905)	79.1
Barnes Med. Coll	(1905)	83.1

The following questions were asked:

OBSTETRICS.

1. Give symptoms of placenta prævia. 2. Give treatment of puerperal fever. 3. Treatment of nausea and vomiting of pregnancy. 4. Give symptoms of extrauterine pregnancy with rupture. 5. What are the indications for premature delivery? 6. What are the indications for use of forceps? 7. Describe the mechanism of breech presentation. 8. Give treatment of eclampsia. 9. Give indications for use of anesthetics. 10 What directions would you give the nurse regarding the care of the infant during the first week?

GYNECOLOGY.

1. Give symptoms of prolapsus uteri. 2. Give treatment of dysmenorrhea. 3. Differentiate ovaritis and appendicitis. 4. Give treatment of chronic metritis. 5. Give treatment of menorrhagia.

CHEMISTRY.

1. Briefly describe molecular attraction. 2. Briefly explain disinfectants, germicides, antiseptics, deodorizers. Give example of each. 3. (a) How are normal solutions made? (b) What are decinormal solutions? 4. Mention the chief constituents of blood and state those predominating in corpuscles and plasma, respectively. 5. (a) Describe method of obtaining urea from urine. (b) Name normal pigments of urine. (c) What conditions cause an increase in the quantity of ammonia in the body?

PATHOLOGY.

1. What is the most important curative agent, not a drug, in *all* virulent infective diseases? 2. Describe the postmortem appearances usually found in acute pneumonia. 3. What pathologic appearances would you expect to find in a fatal case of pleurisy? 4. In a prolonged case of dysentery from the tropics what changes would you expect to find postmortem? 5. How do the postmortem appearances in acute miliary tuberculosis differ from those of ordinary chronic phthisis?

MATERIA MEDICA.

1. (a) How is opium obtained? (b) What percentage of morphine should it normally yield? (c) Name four alkaloids of opium and give doses. 2. Briefly give description and properties of ergot. 3. Name two arterial sedatives, and state in what condition they should be given. Give dose of same for a child one year old. 4. Give dose of Norwood's tincture of veratrum viride, digitalis, gelsemium, belladonna, sodium salicylate, potassium iodid, podophyllin, colocynth, cimicifuga, muriatic acid, bichlorid of mercury. 5. Give composition and doses of the following: Fowler's *solution*, Lugol's solution, Donavan's solution, Basham's mixture.

THERAPEUTICS.

1. Explain the principle governing the *treatment of convulsions* when due to toxic agents in the blood. Name two conditions and give treatment. 2. Name some conditions in which the bromids are indicated and state method of giving large doses. 3. Write a formula for the following: Coryza, laryngitis, gastralgia, acute articular rheumatism, delirium tremens. 4. Briefly give therapeutic indications for creosote and guaiacol. In what conditions would guaiacol be superior to creosote? 5. Name four diuretics. Give physiologic action and therapeutic indications for same.

PRACTICE OF MEDICINE.

1. Describe the symptoms and course of a case of sthenic pneumonia, unmodified by drugs, in a robust young adult. 2. What are the indications for treatment in pneumonia? How much and under what circumstances may medicines be expected to influence results? 3. How would you diagnose a case of pleurisy with effusion? 4. How does nature proceed to cure a simple pleurisy? 5. What is the difference between simple diarrhea and dysentery. 6. Give the symptoms and the most common causes of acute gastritis. 7. What are the symptoms of cystitis and how is it to be distinguished from nervous irritability of the bladder? 8. Describe the course of a typical case of typhoid fever. 9. How do the symptoms and course of acute miliary tuberculosis differ from those of ordinary chronic phthisis? 10. What are the symptoms and most common causes of cirrhosis of the liver?

LEGAL MEDICINE.

1. What is understood by cadaveric rigidity and putrefaction? 2. Describe the examination of a wound in a dead body. 3. Give causes of death in new-born children. 4. What is understood by legitimacy? 5. Give a definition of insanity.

PHYSIOLOGY.

1. Give the general structure of the nervous system. 2. What is meant by reflex action, of the nervous system? 3. Name the branches of the fifth cranial nerve, and give the distribution of the same. 4. Give the name and source of the inorganic proximate principles. 5. Give the composition of the bile, organic and mineral salts. 6. What are the normal constituents of urine? 7. Describe rigor mortis, also tetanus. 8. Describe the process of digestion and absorption of food. 9. Describe the lymphatic system, and give its function. 10. Describe the different kinds of muscular tissue, and the mode of action of each.

HYGIENE.

1. What evils arise from outside privy vaults? How may such evils be averted in cases in which these vaults can not be replaced by modern arrangements? 2. Mention the different methods of bathing and state the hygienic rules to be observed in each. 3. How would you build and furnish a school house, observing hygienic rules? 4. Give the rule for quarantine in yellow fever, also same for cholera. 5. Give the cause of diphtheria and the necessary precautions to prevent it.

SURGERY.

1. Name the three chief forms of bacteria. 2. What is suppuration and how caused? 3. Name the varieties of tumors. 4. Give the differential diagnosis between fracture and dislocation. 5. Describe the operation for removal of the breast. 6. Describe the method of skin grafting. 7. Give symptoms, dangers and treatment of acute synovitis. 8. Describe the varieties of talipes. 9. Give the treatment for chancroid. 10. What are the dangers in passing a catheter or steel sound?

ANATOMY.

1. Name the bones of the face. 2. What essential structures enter into joint formation? 3. Describe the diaphragm. Name its openings and state what passes through each opening. 4. Beneath what points on the anterior surface of the chest walls are located the valves of the heart? 5. Give the origin, course and termination of the vertebral artery. 6. Give a general anatomic description of the lymphatic system. 7. Mention the coverings of the brain. Describe one of these coverings. 8. Give the gross anatomy of the eyeball. 9. What structures are found in the right inguinal region? 10. Mention from without inward the structures covering a femoral hernia.

BACTERIOLOGY.

1. *How do bacteria multiply?* 2. What microbes are found in abscesses? 3. Name three germicides, and five antiseptics. 4. What diagnostic point can be determined by a microscopic examination of the urine? 5. In order to *prove conclusively that a* certain micro-organism is the cause of a certain specific disease, what fundamental conditions must be satisfied?

Oregon July Report.—Dr. B. E. Miller, secretary of the Board of Medical Examiners of the State of Oregon, reports the written examination held at Portland, July 13, 1905. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 57, of whom 21 passed and 36 failed. The following colleges were represented:

PASSED. College.	Year. Grad.	Per Cent.
Detroit College of Medicine..........(1891) 75;	(1904)	81.6
Northwestern University	(1897)	77.6
University *of Minnesota*...........(1903) 75.7;	(1904)	80
University *of Pennsylvania* ....(1891) 76.8;	(1902)	81.4
College of P. & S., Chicago	(1903)	82.8
Temple Med. Coll., Philadelphia	(1905)	76
American Med. Miss. Coll., Chicago	(1904)	78
Rush Med. Coll.....................(1902) 82;	(1904)	80.7
University Med. Coll., Kansas City	(1898)	75.6
Cooper Med. Coll., San Francisco	(1904)	79.4
California Med. Coll.	(1900)	77
University of Michigan	(1902)	80.7
Imperial Alexander University, Finland	(1888)	75
Gross Med. Coll., Denver	(1900)	77.8
Medico-Chirurgical College, Philadelphia	(1905)	75
Hamline University, Minneapolis	(1897)	75
College of P. & S., San Francisco	(1905)	76.8
FAILED.		
College of P. & S., California	(1905)	70
Vanderbilt University ....(1880) 49.6;	(1887)	16.8.
University of Oregon ......(1905 64, 64.3, 66.7, 68.6, 70, 71,		72
Bellevue Hosp. Med. Coll. of N. Y.	(1890)	70.3
University of Buffalo	(1882)	59.8
Willamette University, Oregon............(1905) 65, 66.8,		67.6
Eclectic Med. Institute, Cincinnati	(1903)	73.9
College of P. & S., Chicago........(1902) 73.8;	(1905)	74.4
Pulte Med. Coll., Ohio	(1894)	62
Chicago Med. Coll.	(1884)	72.4
Kansas City Med. Coll. ....(1893) 70.4;	(1904)	56
Rush Med. Coll.	(1903)	73.4
Cooper Med. Coll., San Francisco	(1897)	68.8
Southern Homeo. Med. Coll., Baltimore	(1897)	65
[illegible] ll. of Med.	(1904)	66.6
[illegible] Missouri	(1905)	73.7
[illegible]	(1901)	70.4
Dallas Med. Coll., Texas	(1903)	62
American College of Med. & Surg., Illinois	(1904)	9
College of P. & S., *New York*	(1904)	74.5
Bennett Med. Coll., Chicago	(1905)	70.8
Iowa College of P. & S.	(1884)	74.6
Non-Graduates.............................38.9, 47.7,		59.5

The Public Service

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending November 18:

De Loffre, S. M., asst.-surgeon, *reported* for temporary duty at Presidio of Monterey, Cal.

Kneedler, Wm. L., surgeon, relieved from duty at Fort Rosecrans, Cal., and ordered to proceed to Manila, January 25, where on arrival he will report *to commanding* general, Philippines Division, for duty.

Greenleaf, Harry S., asst.-surg., relieved from duty at Fort Moultrie, S. C., and ordered to proceed to Manila on January 25, where, on arrival, he *will* report to the commanding general, Philippines Division, for assignment to duty.

Buck, C. D., asst.-surgeon, left Fort Leavenworth, Kansas, en route to accompany troops from Fort Riley, Kan., to Fort Sam Houston, Texas.

Ruffner, E. L., Brooks, Wm. H., asst.-surgeons, ordered to report in person, November 27, to Major Wm. H. Arthur, surgeon, president examining board, Army Medical Museum Building, Washington, D. C., to determine their fitness for advancement to the rank of captain.

Noble, R. E., asst.-surgeon, left depot, recruits and casuals, Fort McDowell, Cal., on 30 days' leave of absence.

Gibner, H. C., asst.-surgeon, assigned to duty as surgeon of the transport "Buford" during next voyage to Manila; on arrival at latter place will report in person to commanding general, Philippines Division for assignment to duty.

Bruns, E. H., asst.-surg., reported for temporary duty at depot, recruits and casuals, Fort McDowell, Cal.

Blanchard, R. M., Baker, Frank C., Woodbury, Frank T., asst.-surgeons, reported for temporary duty at Army General Hospital, Presidio of San Francisco, Cal.

Duncan, Louis C., asst.-surgeon, ordered to proceed from Manila, P. I., to San Francisco, Cal., on transport to sail April 15, 1906, instead of December 15, 1905.

Gapen, Nelson, asst.-surgeon, relieved from further duty in the Philippines Division, and ordered to depot of recruits and casuals, Angel Island, Cal., for duty.

Noble, R. E., asst.-surgeon, relieved from duty at depot of recruits and casuals, Angel Island, Cal., and ordered to Fort Casey, Wash., for duty.

Jones, George H., contract surgeon, left Fort Fremont, S. C., on sick leave for two months.

Rietz, Hugo C., dental surgeon, left Fort Wayne, Mich., and arrived at his proper station, Fort Sheridan, Ill.

Boak, S. Davis, dental surgeon, returned to Fort Washington, Md., from leave of absence.

Lowe, Thomas S., contract surgeon, granted an extension of one month to his leave of absence from the Philippines Division.

George, William R. S., contract surgeon, left Fort Monroe, Va., and arrived at Fort Greble, R. I., for temporary duty.

Branch, Frederick D., contract surgeon, ordered to Fort Jay, N. Y., for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending November 18:

Vickery, E. A., asst.-surgeon, detached from the *Franklin* and granted leave until December 1:

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 18:

Banks, C. E., surgeon, relieved from special temporary duty at Century, Fla., and directed to rejoin station at Key West, Fla.

McIntosh, W. P., surgeon, granted leave of absence for twenty-one days from November 15.

Blue, R., P. A., surgeon, relieved from special temporary duty at New Orleans, and directed to rejoin station at Norfolk, Va., and granted six days' leave of absence from November 15.

von Ezdorf, R. H., P. A. surgeon, directed to proceed to Biloxi, Miss., for special temporary duty.

von Ezdorf, R. H., P. A. surgeon, relieved from duty at Biloxi, Miss., and directed to proceed to Havana, Cuba, for duty.

Fricks, L. D., P. A. surgeon, directed to report to Surgeon G. W. Stoner at Ellis Island, N. Y., for duty.

Kerr, J. W., P. A. surgeon, directed to transfer inspection duty from Quebec to St. John, N. B., on or about November 17.

Richardson, T. F., P. A. surgeon, relieved from special temporary duty in New Orleans, and directed to rejoin station at Savannah, Ga.

Long, J. D., P. A. surgeon, directed to report to the Governor General of the Philippine Islands for duty as assistant director of health of said islands.

Long, J. D., P. A. surgeon, granted leave of absence for one month.

Rucker, W. C., assistant surgeon, relieved from special temporary duty at New Orleans, and directed to rejoin station at Boston.

Ward, W. K., asst.-surgeon, directed to report to Surgeon G. W. Stoner, Ellis Island, for duty.

Pettyjohn, Joseph, asst.-surgeon, relieved from duty at Fort Stanton, N. M., and directed to proceed to San Francisco, reporting to the medical officer in command for duty and assignment to quarters.

Spratt, R. D., asst.-surgeon, granted leave of absence for seven days from November 17.

Alexander, E., acting asst.-surgeon, six days' leave of absence granted from November 10, amended to read six days from November 17.

Ewing, J. T., acting asst.-surgeon, granted seven days' leave of absence from November 7, under paragraph 210 of the regulations.

Foster, S. B., acting asst.-surgeon, granted leave of absence for ten days from October 21.

Gregory, G. A., acting asst.-surgeon, granted leave of absence for fourteen days from November 11.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for thirteen days from November 6.

Tappan, J. W., acting asst.-surgeon, granted leave of absence for twenty-three days from November 13.

Stearns, W. L., pharmacist, three days' leave of absence revoked.

Stearns, W. L., pharmacist, relieved from special temporary duty at Century, Fla., and directed to rejoin station at Santa Rosa Quarantine.

Gibson, F. L., pharmacist, granted one day's leave of absence, November 1, under paragraph 210 of the regulations.

Medical Organization

MEDICAL ORGANIZATION IN NORTH DAKOTA, MONTANA, IDAHO AND WASHINGTON.

By J. N. McCormack, M.D.
Chairman of the Committee on Organization of the American Medical Association.
BOWLING GREEN, KY.

For reasons which will appear later these four states group themselves together naturally for the purposes of this report. District meetings were arranged for me at Fargo and Bismarck, in North Dakota, and at Billings and Butte, in Montana. I missed connection for the appointment at Billings, but my place was ably filled by Dr. Campbell, president of the Montana State Association, and a good meeting was held. The other meetings were well attended by the local profession at each place and by such representative men from the respective states as enabled me (in the course of the free and frank discussion which always followed my talk) to get a very fair knowledge of almost everything relating to professional conditions.

I visited the state meetings in Washington and Idaho, the former at Tacoma and the latter at Boise. Both were well attended, and I have never participated in meetings in any part of the country where there was such an active and intelligent interest in every question bearing on the elevation of professional standards and the betterment of professional conditions. After every opening talk they insisted on a suspension of the regular program and devoted hour after hour to careful study of the detailed methods for building up and maintaining the interest in their county societies, by postgraduate work and otherwise, of weaving in and utilizing the district societies to the best advantage in the sparsely settled regions, of enlisting the support and co-operation of the laity, and especially of the learned professions—the lawyers, editors, teachers, clergymen and pharmacists—and of securing and enforcing medical and health legislation. In the course of these heart-to-heart talks I was able to make a study of their short, plain legislative history, and professional evolution, in a most instructive and profitable way, the more so now, because, in the light of my large experience in this work, such studies are naturally and almost insensibly comparative.

It was soon clearly developed that the Minnesota profession had builded wiser than it knew in securing advanced legislation and in fixing high standards in that state at an early day. Their laws had been copied almost literally in all four of the states, the same high standards were established under them, and in some respects with even better results. Thus North Dakota was the first state to secure an effective statute requiring that all patent and proprietary medicines containing alcohol and narcotics should show the exact amount of such substances on the label of each bottle or package. This state also has an almost ideal pure food and drug law, an excellent one for encouraging the study of anatomy, and a state bacteriologic and pathologic laboratory. The administration of the pure food, drug, nostrum and similar laws is in the hands of the chemist and director of the State Agricultural Experiment Station—a layman. He has the active co-operation of the organized profession, is executing these statutes without fear or favor, and can probably do so more effectively and with less opposition than he could if he were a medical man.

The same difficulties and opposition were encountered in securing the passage of this advanced legislation as would have to be met in the older states. Such unusual success was only possible through the able, tactful leadership of Dr. F. R. Smyth, chairman of the committee on public policy and legislation, aided by a few strong medical and lay members in both houses of the general assembly, and a united and high-grade profession, which deserved, and to a remarkable degree commanded, the respect and confidence of their representatives.

The other states included in this report have accomplished much in the same directions, more than in most of the older states, but none of them has been so successful as North Dakota, probably because they have not been so fortunate in selecting a leader.

Although the geographical and other difficulties incident to a new and sparsely settled country are more pronounced and formidable here than in many other sections of the country, and although the work is recognized here as being in its infancy, more has been really done, and there is more of the real spirit of organization, more of the unity of purpose, faith and enthusiasm, necessary to secure results, than I have found anywhere else. Careful investigation soon convinced me that these highly desirable conditions were easily traceable to two principal causes: First, to their well devised and rigidly enforced laws, and high standard examinations under them, which at an early day turned the current of graduates from low grade commercial medical colleges into less favored states. Second, and only less important, to the fact that the profession in this section is usually so well supported financially that its members can and do constantly avail themselves of the benefits of postgraduate instruction in the great medical centers, supply themselves with high-class standard and periodical literature, and otherwise equip themselves for modern scientific work, in a way possible only to a fortunate few in many parts of the country. With the minimum office consultations and prescriptions fixed at $2, day visits at $2.50 to $3, and night visits almost uniformly at $5, visits in the country $1 per mile, ordinary obstetric fees from $20 to $25, and surgical fees in the same proportion, as I found them established more firmly as my duties took me further west, it was easy to understand why higher qualifications and better equipment were within easy reach of the rank and file of the profession. It should also be said, for the benefit of those who might be tempted by this roseate picture of fees and conditions, that the climate over most of this section is very severe, that reciprocity with other states is not favored, for reasons which appear fairly satisfactory to an impartial observer, and that their examinations are such that none but well-qualified men need hope to be successful in passing them. In addition to the advantages already enumerated, made possible by the higher standards and better financial support, I was constantly impressed that there was a truer spirit of altruism pervading the profession. This has already been indicated in the greater interest taken in all affairs in regard to which medical men owe a public duty, but it was evident also in a broader and more discriminating charity for the poor. In these representative men from the mountains and plains, especially those in middle life and older, there seemed often the counterpart of Dr. William McClure, the general practitioner of the "Bonnie Briar Bush," whose story should be known, and whose noble charity should be emulated in a still higher and more discriminating way under modern methods and conditions. My constant observation is that young physicians do not do charity practice cheerfully or with good grace. I have repeatedly urged, and shall continue to do so until it is accomplished, that every medical school in this country should give a regular course of instruction in business methods, in professional conduct and in organization or co-operation, but this should always include such advice as to the obligations of the physician to the poor, to God's poor, as will guard against mistakes not creditable to such a profession as ours.

Finding that professional and public sentiment had crystallized and set in undesirable forms in most of the older states, I had long believed that it might be practicable to secure model organization and legislation in some of the new states, and hold these up as examples for their less fortunate, fad-ridden sisters. A careful study, made possible during this trip, has converted this belief into a conviction. Quackery has gained little foothold here, comparatively, and the profession has such a high place in the public esteem that if all of the forces at its command can be united, and a proper man selected in each state to lead the movement, there should be no doubt about the result. The urgent need here, and everywhere, is such an organization of the profession in each county where there are as many as four or five active physicians, as will enable them to hold meetings devoted to the discussion of questions of public policy, to which shall be invited their senators, representatives, judicial and other officers, lawyers, editors, teachers, clergymen and other leaders of thought, and educate them as no one but competent medical men can do, and which they will fully appreciate if it is properly done, not only as to the necessity for such legislation and work for the proper protection of the public, including them, their families and neighbors, but as to the duty and unselfishness of the profession in leading the reform movement. If this can be undertaken in a comprehensive, common-sense way, even in a third of the counties in each state, and, after such a leaven has worked for a while, if a well selected, tactful representative of the profession can be found, who has the respect of legislators and other officials, who knows and has the confidence of their medical constituents, and who can bring these individuals and their interests into such relationship as will prove to the interest of all concerned, and if he can be kept at the capital during each session of the general assembly, the influence of the profession in promoting its own and the public welfare would soon become irresistible. If medical colleges could only have realized and taught from the first that ours is a co-operative profession and not a competitive trade, that even as between those of the same locality there are nine good reasons for co-operation and harmony for every poor one for contention and discord, physicians would have been as harmonious as lawyers, and health and medical boards would have been just as much a part of the warp and woof of our system of government as the courts are. This is what the new plan of organization stands for, all it stands for, and if our medical schools can be induced to take up their part of the work, even at this late day, the difficulties will be greatly lessened in the states now under consideration and in the country at large.

The hospitality and cordiality of these western doctors was so warm and constant that this feature of the visit to each locality will always be with me a pleasant memory. Paraphrasing the invocation of Tiny Tim, I earnestly pray, "God bless them all; may they live long and prosper."

Illinois.

Urbana, Champaign, and Champaign County Medical Society.—A new medical organization was organized in Champaign, October 19, with Dr. William K. Newcomb, Champaign, president; Dr. William F. Burres, Urbana, vice-president, and Dr. W. E. Schowengerdt, Champaign, secretary.

Indiana.

Fourth District Medical Society.—This society, composed of physicians belonging to the medical societies in the counties of the fourth congressional district, was organized, October 26, at North Vernon, with a charter membership of about 85. Dr. William H. Stemm, North Vernon, was elected president, and Dr. James K. Ritter, Seymour, secretary and treasurer, while the presidents of the various constituent county medical societies will act as vice-presidents.

Michigan.

Fourth District Medical Society.—The first annual meeting of this society was held at Port Huron November 8. Dr. David Inglis, Detroit, president of the state medical society, delivered an address on "Medical Ideals." At the banquet, in the evening, Dr. Charles C. Clancy, Port Huron, served as toastmaster, and responses were made by leading members of the profession of Detroit and eastern Michigan.

Minnesota.

Aitkin County Medical Society.—The organization of this society was perfected at Aitkin, October 2, by the adoption of the standard constitution and by-laws and the election of the following officers: President, Dr. Carlton Graves; vice-president, Dr. J. Fowler Avery; secretary, Dr. A. G. Belsheim, and treasurer, Dr. James W. George, all of Aitkin.

Missouri.

Gentry County Medical Society.—On October 31, six physicians of the county met in Albany and took preliminary step to effect a permanent organization of the practicing physicians of the county.

Ohio.

Geauga County Medical Society.—A number of physicians of the county met in Burton, October 5, and organized this society, with the aid of Dr. William E. Lower, Cleveland, councilor of the fifth district, and Dr. Clyde E. Ford, of Cleveland. Dr. Frank S. Pomeroy, Chardon, was chosen president, and Dr. Albert D. Warner, Burton, secretary and treasurer. A committee, consisting of Drs. Albert D. Warner, Burton, Nicholas F. Schwartz, Auburn, and Ida B. Peffers, Middlefield, was appointed to draft a constitution and by-laws.

Oklahoma.

Southwestern Oklahoma Medical Association.—At a meeting of the Kiowa County Medical Association at Hobart, November 9, the question of forming a medical association for the southwestern Oklahoma county societies was taken up and favorably acted on. As a result, a temporary organization was formed, embracing Kiowa, Washita, Custer and Green counties. Dr. W. L. York, Hobart, was elected temporary president, and Dr. Alfred H. Bungardt, Cordell, temporary secretary. A permanent organization will be perfected at a meeting to be held in Cordell on Jan. 10, 1906.

Pennsylvania.

Shenandoah Medical Society.—The Shenandoah Medical Society was organized, September 27, with the following officers: President, Dr. Stephen C. Spalding; vice-president, Dr. Harry M. Wasley, and secretary, Dr. William J. Scanlan.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

OHIO NINTH DISTRICT MEDICAL SOCIETY.

Meeting held at Gallipolis, Oct. 31, 1905.

Dr. Lester Kellar, Ironton, was chairman, and Dr. Joseph S. Rardin, Portsmouth, acted as secretary.

At the opening of the session 52 physicians were present from various parts of the district. The meeting was held at the laboratory of the State Hospital for Epileptics, and was followed by a banquet in the same building arranged by the local society.

The Business Side of Practice.

Dr. Preston Seiler, Piketon, discussed many of the evils prevalent in the profession and made valuable suggestions for improvement.

Pleuritic Effusions.

Dr. E. T. Dando, Wellston, dwelt on the insidious character of the disease and the frequency with which it is overlooked and a wrong diagnosis made. A diagnosis of tuberculosis is frequently made and the lung destroyed, or greatly crippled, before the true condition is discovered. He classified the cases as serous, serofibrinous and purulent. The causes are pneumonia involving the pleura, pyemic conditions elsewhere, infections from contagious diseases, such as scarlet and typhoid fevers, measles and whooping cough, and trauma. In some cases it follows rupture of tubercular cavities. The treatment of the serous cases is medical, either alone or with the aid of aspiration. In the early purulent cases, cure would usually follow incision, opening, cleansing and drainage. In chronic purulent cases, Estlander's thoracoplastic resection is advisable. If let alone, almost all patients will die.

In the discussion, the necessity of early and careful examination was emphasized, as was also the importance of lack of open resonance in diagnosis. Aspiration was said to be valuable when bacteria are not present, but in purulent cases free drainage is essential.

Dr. Orrin C. Andre, Waverly, advised the injection of small quantities of Thiersch's solution to replace the liquid removed by operation. He also considered the syrup of the iodid of iron a valuable remedy in the serous cases.

Dr. Brooks F. Beebe, Cincinnati, said that effusions are very often not discovered, and believed that this, in many cases, is on account of the lack of careful examination.

Perineal Laceration.

Dr. William E. Pricer, Ironton, read a paper on "Laceration of the Perineum, Frequency, Causes, Prevention, Treatment." Hospital records show that laceration occurs in about 30 per cent. of primary deliveries and in 10 per cent. of subsequent deliveries. He classified three degrees of laceration: First, those half-way to the sphincter ani; second, those extending to the sphincter ani, and, third, those extending through it. Many methods of prevention have been advised, but none is effective in all cases. In many instances it is impossible to prevent laceration, and censure should not follow when it happens. Immediate operation was advisable in almost all cases.

Dr. Charles L. Bonifield, Cincinnati, believed that 90 per cent. of primiparæ were lacerated. The only method of prevention worthy of mention was the use of chloroform in the second stage. Lacerations should be repaired as soon as possible, chromicized catgut being the best suture material.

Dr. Joseph H. Ray, Coalton, expressed his opinion that if more care were taken regarding physical exercises during the development of the girl, and in the period of pregnancy, fewer puerperal lacerations would occur.

Otitis Media.

Dr. George M. Marshall, Portsmouth, considered that many cases of otitis media are neglected and that ill results follow failure to make early incision into the tympanum, thereby evacuating infected discharges from the middle ear. Enlarged tonsils and extension of infection from the exanthemata are the chief causes of this condition.

Banquet.

The association adjourned to meet at the Banquet Hall, where the local society had provided substantial entertainment. Dr. John B. Alcorn, Gallipolis, acted as toastmaster.

NEW YORK NEUROLOGICAL SOCIETY.

Regular Meeting, held Oct. 3, 1905.

The Vice-President, Dr. J. Arthur Booth, in the Chair.

Types of Hysterical Insanity.

Dr. Robert C. Woodman read a paper on the outcome of a symptomatic study of the insanities during the past two and a half years. Cases not clearly belonging to any well recognized insane type had been especially scrutinized, and some had been found to show hysterical stigmata, while other atypical cases without stigmata presented mental symptoms very similar to those of the hysterics. His observation and study had shown that there were among the committed insane a considerable number of hysterics, and those cases were, in many instances, violently insane for considerable periods. Any medical classification that ignored that fact was incomplete, and concealed important clinical distinctions. The recognition that some hysterics, as such, were insane, helped to bridge the gap between mental diseases and general medicine, and made more easy the conception of other insanities as thinking disorders; as functional in the same sense as ordinary thought was functional.

Dr. Woodman's paper, in summary, analyzed the symptoms that insane hysterics presented. He found the origin of the attack in emotional experiences; it pursued an episodic course; there was an absence of marked disturbance in the stream of thought, excepting in dazed and stuporous states; there was a natural point of view concerning indifferent topics; often periodic amnesia; a loss of the ability to do mental or physical work, but with little or no motor retardation, and, on the emotional side, usually anxiety and fear. Cases were quoted in which the anxious depression preceded the hysterical stigmata, notably in one involutional case, and the question of a close relation of hysteria to anxious depressions at any time of life was raised, especially as to its relationship to recurrent melancholic attacks without manic alternations. Some non-conclusive evidence on the relation of hysteria and dementia præcox was submitted, and some other symptom complexes which hysteria had been found to take were referred to.

DISCUSSION.

Dr. Adolph Meyer said that the hysterical insanities are a rather interesting group from a theoretical point of view, inasmuch as they represent one of the clearest types of mental disorder, in which the psychogenic element is uppermost. Their recognition is also of decided importance from a prognostic and therapeutic point of view. A large number of the cases—indeed, the majority of the attacks which rank plainly as insanities, are, however, of a rather transitory character, and for that reason, perhaps, there is need of a detailed knowledge of the disorders, for their treatment has thus far aroused comparatively little interest. That phase of the subject must of necessity be preceded by a study in broad lines of the symptom-complex, such as Dr. Woodman's paper gave. While in some there was a distinct history of hysteria, with hysterical stigmata well marked, and the whole mechanism of the disease characteristically hysterical, there were others in which the symptom-complex seemed to coexist with well-recognized forms of insanity, such as dementia præcox and the manic-depressive type, as well as involutional melancholia; and his suggestion concerning the latter is certainly worth attention; but under those conditions it was usually apparent that it was subordinate to the more decisive phenomena of the major affection. Some points which had of late been especially touched on in the literature of hysteria; namely, the ganser complex, had not been especially considered by Dr. Woodman, and perhaps with some justification, as it might well be regarded as an afterfact of clinical investigation, when it goes beyond the scope of the analogous states actually described.

Ricklin, published in the *Psychiatrische Wochenschrift*, and reviewed in the *Psychological Bulletin* of July, 1905.

Dr. Arthur C. Brush said that if we accept the old idea that hysteria was a mental phenomenon that was to a greater or lesser extent met with in the entire human race, it would be difficult to see how Dr. Woodman could differentiate between these so-called hysterical insanities and the true insanities. That the former were nothing but exaggerations of what was normally present in the human being is undoubtedly true, for even sane people have at times hallucinations and delusions and automatic dream states. The sudden onset of the symptoms in these cases of so-called hysterical insanity, and the sudden recovery from them, would sharply distinguish them from cases of true insanity, as would also the lack of mental deterioration. Dr. Brush said he did not wish to be understood from this as questioning the propriety of proper treatment in dealing with cases of so-called hysterical insanity, but until we could clearly define insanity and hysteria, he did not think we could accept the latter as a form of insanity.

Dr. William M. Leszynsky said that as a rule it is exceedingly difficult or impossible, in the majority of cases to make a satisfactory or accurate determination of the visual field.. For this requires on the part of the patient, persistent concentration of attention and considerable judgment. It is possible, however, in some cases to decide as to hemianopsia or marked concentric contraction.

Dr. George W. Jacoby said he was rather surprised to learn that this class of cases was considered in any way unusual, and he could only explain this on the ground that they were regarded from a different standpoint by the psychiatrist and alienist in contradistinction to that of the neurologist. The latter regards many of the somatic features of hysteria as distinct delusions, and if that interpretation is correct, then it is only one step further to the development of distinct insanity.

In the recognition of these cases of so-called hysterical insanity it would be necessary to study the previous history of the patient, and exclude the various other forms of insanity, such as epileptiform insanity, delirium of various kinds, catatonia, etc. Given, a case in which there was a previous history of hysteria, together with the course and clinical features pointed out by Dr. Woodman, and the diagnosis of hysterical insanity could in time be made, but whether a diagnosis could be made from the course alone, without such a previous history of hysteria was questionable. The value of such an early diagnosis lies chiefly in the prognosis and treatment, but the speaker said it would be a decided mistake to believe that all cases of hysterical insanity were of short duration. He recalled instances where recovery was delayed for two or three years.

Dr. Jacoby said he agreed with Dr. Leszynsky that it would be exceedingly difficult to base the diagnosis of hysteria on [illegible], such as restriction of the visual field, hemianesthesia, etc., because patients of that class are usually very unreliable in their statements, and susceptible to suggestions of all kinds.

Dr. Edward D. Fisher said he would certainly draw a distinction between cases of mental disease occurring in those who gave a previous history of hysteria and in those who gave no such history. The former, as a rule, do not run the typical course observed in melancholia, or in so-called mania, using the older terms, but they may assume more of the paranoic form. The duration of these hysterical insanities, as Dr. Jacoby had said, is often prolonged. He recalled cases of this kind where restraint became necessary on account of the development of suicidal or homicidal tendencies, and where some mental instability persisted for some time after the disappearance of the acute symptoms.

Dr. J. Arthur Booth said that the type in which there are convulsive seizures and hemianesthesia, with narrowing of the visual field and marked emotional disturbances, is not difficult to recognize. In some of the other types referred to, however, the diagnosis of hysterical insanity should be made with great circumspection; for just as in many organic diseases of the nervous system hysterical disturbances are not infrequently observed, so in certain psychoses, other than the one under consideration, emotional disturbances occur, which would not justify one in grouping these cases as types of hysterical insanity.

Dr. Woodman said he believed that in hysteria both the physical symptoms and such mental disturbances as are regarded as insane have a common basis in a characteristic thought disorder. He did not wish to be understood as presenting the provisional classification of the cases he had reported in his paper as a classification of hysterical insanity. He simply used these headings as guide posts to give some idea of where, among the many groups of insanities, we might look for the hysterical type.

Dr. August Hoch, of Bloomingdale, read a paper on "Flight of Ideas."

PHYSICIANS' CLUB OF CHICAGO.

Regular Meeting, held Oct. 24, 1905.

Dr. Frank Billings in the Chair.

The subject under discussion was "The Establishment of a Permanent Medical Home and Library for the Physicians of Chicago and of Cook County."

Suggestions as to Organization.

Dr. Charles L. Dana, New York, outlined the history of the organization of the New York Academy of Medicine, and offered suggestions concerning the establishment of a similar organization in Chicago. The New York Academy of Medicine was founded in 1847, when there was no other medical society, for the purpose of affording physicians an opportunity to meet together and discuss scientific problems. The original membership numbered 200. Incorporation papers were taken out later, so that the society could own property. In 1872 a library was started, and in the early 80s the society purchased a building worth $30,000. It was early felt that the influence of the medical profession should be exerted for the public welfare as well as for the promotion of medical science, and the society has always taken an active part in the promotion of sanitary measures. It was through the influence of the acadamy that the city board of health was established, and through the activity of its members the medical supervision of the school children was instituted. The society has never interfered directly with nor has it attempted to promote medical legislation, except in those broad measures which involve the general well-being of the public. Its membership has always maintained a high standard. The academy owns a library of 90,000 volumes, containing not only all the standard works and monographs, but a full series of the most important medical journals of the world. The library is open to the fellows day and evening for most of the year; to non-members it is open for a certain number of hours during the day, and the public also are permitted to use it on presentation of the card of a fellow. Members are entitled to borrow books, and books are sent to them while they are away from tne city.

In 1889 funds were raised by contributions and donations to erect the present home of the academy. This building has a capacity for a large library, has meeting rooms for the different branches of the academy and other medical societies, a central hall, parlor and refreshment rooms. The academy now owns property worth $700,000, all of which has been accumulated during the past twenty-five years. The academy has not undertaken any original investigation in any special line of work, directing its energies solely to the promotion of sanitation and the study of problems connected with public medicine. It brings before the public and the profession itself questions involving hospital organization, and public education, and always has in mind the fact that when its influence as a great medical body can be exerted in behalf of proper action by the state, it will be so exerted.

The academy is accessible to every educated physician of good standing and of at least three years' experience. It provides opportunities for consulting one of the best libraries in the country, and for presenting and discussing medical problems. It provides social opportunities for its members and aims to keep clear of all cliqueism and politics. The membership is limited to 1,000. There are 100 non-resident fellows and a few honorary fellows. The fellows pay an initiation fee of $20 and annual dues of $10. The non-resident members pay half that sum.

A board of trustees, consisting of five members, has control of all the finances of the academy. The executive work of the academy is in the hands of a council, which consists of the president, three vice-presidents, two secretaries, the treasurer, the five trustees, the chairman of the committee on admissions, and the chairman of the committee on library, a total of fourteen. The council attends to the general management of the academy. Working under the council is the librarian, who is also the executive officer of the council. The income of the academy from trust funds amounts to about $2,500. The income from dues amounts to about $17,000. The income from other funds, such as initiation fees, etc., amounts to $18,000, making a total annual income of about $37,000. The annual maintenance of the library is about $14,000; maintenance of building, including heating, lighting and insurance, and salaries, about $11,000; expenses for scientific and organization work, about $2,100. The surplus is placed in a sinking fund.

The scientific organization of the academy is as follows: There is a central body, which meets twice a month for eight months in the year. These are the stated meetings of the academy. One of these meetings is devoted to an annual discourse and to the delivery of an endowed lecture on some medical topic. The academy is divided into nine sections, each of which has a chairman and a secretary. These sections have the free use of the academy for their meetings. Each section pays its own running expenses. The chairman of the section has full control of the work of that section. Once a year each section must present before the general body of the academy a paper or a discussion which is expected to show either some special development in that particular branch of medicine or which details the relationship of that section to general medicine. The sections meet once a month.

The College of Physicians of Philadelphia.

Dr. W. W. Keen of Philadelphia wrote that this, the oldest medical body in the United States, was founded in 1787. The college holds a scientific meeting once a month, and monthly meetings are held by a number of sections. The college has been the professional adviser of the city in matters of health and hygiene, especially in times of epidemics or other emergencies involving the health of the city. It is also a center for professional meetings, and some non-medical organizations assemble in one of the meeting rooms. No rental is charged these societies, because the college is exempt from taxation. A small fee is charged, however, to cover the expenses of heating, lighting and janitor service. Originally the college met in private houses, later in a room in the Pennsylvania Hospital. In 1865, through bequests, subscriptions and donations, a sufficient sum was obtained to erect the building now occupied by the college. The library contains over 75,000 volumes and 75,000 pamphlets, besides a number of duplicates. The growth of the library has come from gifts of publishers, of fellows, and of friends of the college, public institutions and hospitals, medical societies and bequests of deceased fellows. Through the influence of fellows of the college library funds have been established as memorials of doctors, or of non-medical persons. The endowment funds of this character, which are only available for purposes of the library, amount to about $65,000. Two other sources of additions to the library exist; one is the journal club, to which a large number of the fellows subscribe $3 a year, the journals going directly to the library, and the other is a directory for nurses established by the college some years ago and which more than pays for itself. The profits accruing from this directory go to the library.

Establishment and Maintenance of a Medical Library.

Dr. Nicholas Senn said that in Chicago the time is ripe for taking active steps for the establishment of a library that will be a credit to the city and to the profession. The physicians need only the encouragement of example to take an active interest in such an undertaking. He has made an attempt, by example, to furnish a nucleus for such a library by donating to the Newberry Library the largest portion of his own library, including the surgical library of Professor Baum, and the physiologic library of Professor Dubois-Raymond. Dr. Senn said that when the Chicago profession has a permanent home he proposes that that collection shall grow where it shall be accessible to all physicians. It is his purpose also that that collection shall become the best and largest antiquarian medical library in the world.

Plans of the John Crerar Library.

Mr. Charles Andrews, librarian of the John Crerar Library, outlined the plans of that institution with reference to the provisions the library intends to make for a permanent home for physicians, as well as a place for the Senn library. The new building of the Crerar Library is to contain suitable meeting rooms for medical societies and their committees, as well as rooms for the secretaries, which may be used as society headquarters.

Cleveland Academy of Medicine.

Dr. P. Maxwell Foshay related the method by which the city of Cleveland acquired a permanent home and a medical library. Twenty-five doctors formed a society whose annual dues are $25. The running expenses were kept at $1 per capita, and the balance was invested in interest-bearing securities. A few years later the Cleveland Medical Library Association was organized, with three classes of members. Those who held the franchise paid annual dues of $30. An active membership cost $10 a year, and an associate membership $3 a year. Subscriptions and donations were solicited from outsiders. Enough money was raised to make a payment of $10,000 on property valued at $14,000. The house was remodeled to suit the purposes of the association, and books were secured by gift and by purchase. The association is now engaged in raising funds to erect a large auditorium and to make additions to the present home.

Other speakers were Dr. D. R. Brower, Dr. I. N. Danforth, Dr. C. S. Bacon and Dr. L. Harrison Mettler.

AMERICAN ACADEMY OF MEDICINE.

Thirtieth Annual Meeting, held in Chicago, Nov. 9-10, 1905.

(Concluded from page 1598.)

Effect of Recreation on the Nervous System.

Dr. William James Herdman, Ann Arbor, Mich., said that when we undertake to consider recreation after toil as a need of the human organism it is in some part, if not in the whole, of the nervous system, where that need has arisen. This is quite as true of mental as of physical labor, of emotional expenditure of energy as of that which results in glandular secretion; it is the nervous system which must "pay the piper," for it is in its structure chiefly where the need for molecular reconstruction has arisen. A life that is all work, narrow in its range, pouring out its store of nerve energy in muscular effort, unvaried, monotonous; an occupation that makes a mere machine of both body and mind, and keeps that machine incessantly employed day in and day out, gradually, but surely, leaves its permanent imprint on that plastic substance, the nerve tissue, which serves as the medium of action and reaction between the physical forces on the one side and the mental and spiritual on the other. It becomes fixed and restricted in its channels of communication. Both the receptive and expressive capacities of the mind of such a man atrophy from disuse, destroying the possibilities of a larger life. Continued and unvaried draughts on the reservoir of energy, which every nervous system has stored, no matter through what channel the depletion takes place, not only disregard directly the law of recuperation for the organs so used, but indirectly through the neglect of other faculties, limit the sources from which new supplies of nerve force might be supplied.

Recreation, physiologically speaking, is local sleep for an exhausted part, not general sleep, and the fundamental principle of all recreation consists in this local rest which is secured by a change of organic activity. In the brain of man, with its common source of nutrition, but with its complex centers and functions acting independently, the plan best suited for recuperating lost force in a functionating center is to excite activity in some associate center. The needed conditions in blood supply and lymphatic action, in commissary and scavenger service, are thus maintained, and the work of reconstruction is hastened and promoted. If, at the same time, the processes of nutrition are accompanied by agreeable emotions, the organism is in the most favorable state for quick and abundant restoration of energy to the exhausted part. In stating that recreation consists in shifting the activity from an exhausted to a rested area of the nervous system, no new fact has been revealed nor any new principle evolved. The practical methods by which suitable recreations are to be selected to meet the requirements of special classes or individuals must start from this fundamental principle, but they will vary as taste, occupations and opportunities vary. From the complexity of occupations in which our fellows engage there results the greatest variety of channels through which the store of nervous energy is depleted. Likewise taste, inclination, interests and opportunities for their exercise are so various that the transfer to congenial and, at the same time, possible activities as recreative means is largely a matter for individual decision. Outdoor plays and games, requiring some skill, such as boating, fishing, swimming, skating, horseback riding, gardening, toolwork and the like, are of much more recreative value than any of the artificial gymnastics which have no purpose nor incentive beyond the movement itself. For the brain worker, the way is open to recreations innumerable, and the opportunity for choice and the possibility of varying their character at will makes the problem of healthful living an easy one if a man would cultivate a sufficient variety of interests, so that when one channel of activity is, for any reason, closed to him as a relief from necessary work he can choose another. The practical result in this is seen when we compare the statistics of health and longevity of the brain-worker and of the muscle-worker. The researches of Beard and others have shown that brain-workers not only live from 14 to 20 years longer than muscle-workers, but that their health is more uniformly good and their stature of larger average. When mankind is once emancipated from the conception that honest work is contemptible drudgery and learns to recognize the pleasures and recompense it has in store when rightly apprehended, which means that the work selected must be suited to individual capacities and tastes, and when greed and selfishness give place to a spirit of mutual helpfulness, the problem of recreation will be solved.

Recreation as a Sociologic Factor.

Dr. Donly C. Hawley, Burlington, Vt., said that, while work is necessary and ennobling and is the law the universe obeys, refreshment of the strength and spirits after toil is likewise a necessity, which finds expression in the natural cravings of the social instinct and in the general desire for diversion and amusement. The social instinct demands satisfaction, and will find it in recreation and amusement, which is either beneficial and uplifting, or injurious and degrading. In attempting to bring about the social benefit of the working classes, of the very poor and of the criminal and vicious elements in any community, the first and greatest need is healthful recreation. One of the great sociologic needs of the day is admittedly a solution of the so-called labor problem, but of equal importance and hemmed about with greater difficulties is a solution of the leisure problem. One of the ways of bringing about the social betterment of the masses, in the opinion of the author, is by providing proper channels for the expression of every social want and every social sympathy. The author thinks that if we can improve the conditions and surroundings of the children of the poor, give them educational and industrial advantages, and control their amusements and recreation, we shall have solved, in a large measure, an important problem for the next generation, as formative processes will, in large measure, render unnecessary those which are reformatory. This applies with force to children in all classes of society. Parents should recognize the fact and the necessity of furnishing at home, and in properly conducted places, amusements and recreation which shall be satisfying and at the same time uplifting and educational. Teachers everywhere should also be made to realize the importance of this question and to use the opportunities which their positions afford in influencing the children under their care to seek recreation which recreates and amusements which will bring the most perfect joy.

Physiology of Recreation.

Dr. George W. McCaskey, Fort Wayne, Ind., said that the primary predominant factor in practically all forms of recreation is the psychical one. The sudden change from a state of extreme depression and misery, with perfectly distinct physical suffering, to one of buoyancy and exultation, with entire forgetfulness of self, as a result of a change of emotion, is a not unfamiliar experience in the lives of most people. If the various forms of recreation are closely scrutinized, it would be found that those diversions and amusements which produce the promptest and most brilliant effects on both the mental and physical states of those who participate in them, are precisely those in which the psychical impression is the strongest. The first requisite in what may be termed successful recreation is a complete diversion from self, a complete submergence of self-consciousness, which inhibits that everlasting introspection of our physical selves which is the foundation of half the morbidity of the world. How this can best be done is a problem for the individual and depends on his age, sex, social status, intellectual development and other factors which go to make up the complete ego. McCaskey called attention to the purely physical or mechanical aspects of many forms of recreation, and said that the systematic introduction into our lives of such recreation as is suited to the individual needs should be the rational aim of all, and a proper understanding of the physiological laws and facts which underlie the whole subject can not be otherwise than helpful. He concludes with the admonition of Virgil that "rural recreations abroad, and books at home, are the innocent pleasures of a man who is early wise."

Relation of Recreation to Education.

Dr. R. K. Row, superintendent of schools, Berwyn, Ill., presented a brief statement of the recognized psycho-physical theories of play. First—The surplus energy theory assumes in the higher forms of life a series of inborn impulses for whose serious activity there may be, for a long time, no opportunity of discharge. As a result a reserve of exuberant energy collects and presses for employment, thus calling for an ideal satisfaction of the impulse in the form of play. Second—Teleologic theory begets a tendency in the organism to practice those activities that will be needed later in life; a means of getting control of the racial inheritance of co-ordinated power and skill. Third—The organic selection theory, in part at least, includes the first and second. From the random movements of the preconscious control period the organism selects those that give pleasure and repeats them; later, these and the movements of associates, are imitated and the pleasurable activities persist in playful repetition because the organism finds them to be vital to conserve life and promote growth and development so long as growth is possible. Out-of-door games, plays and recreations are the best means of physical education. Co-operative games promote social education. They develop the qualities of leadership, self-reliance, self-control, and the spirit of co-operation in social groups. Recreation is a very large and vital factor in esthetic education. Recreative activities have also important ethical functions.

Ceremonials and Festa in the Recreation of Larger Groups of Individuals.

Dr. Bayard Holmes, Chicago, said that the value of the pageant has been well recognized by every organization which has aimed to secure a control over public opinion and public life. The educational and social function of the pageant can not be confined to any one class or age. It has a use for every class and for every member of society. The wonder of the child and his imagination are touched by the color and tinsel and tawdry illuminations as by no reality of life. For the youth the occasion is one of unequaled liberty and freedom from restraint. He attains almost the buoyancy of the savage. For the young adult it furnishes the occasion for prenuptial amenities. For those in the prime of life al opportunity is given for the display of success in any and every activity of life. The social, the economic and the political success can be ostentatiously exhibited without the odium of effrontery or vulgarity. Even the aged may receive the scanty satisfaction of an honorable decline. But the extension of the influence of the pageant and the communal festivity reaches farther and cultivates and encourages every joy-giving activity of life.

Medical Features of the Papyrus Ebers.

Dr. Carl von Klein, Chicago, described the papyrus in general and in detail and discussed prehistoric medicine from about 5,000 years before the Christian era to Hippocrates. The paper will appear in The Journal.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Oct. 25, 1905.

The President, Dr. James M. Anders, in the Chair.

Operative Treatment of Fractures of the Patella.

Dr. John H. Gibbon stated that the two factors which render the non-operative treatment of fractures of the patella difficult are, first, the attachment to the upper fragment of a powerful group of muscles which, if not properly controlled, constantly tend to separate the fragments, and, second, the interposition of ligamentous or tendinous structures between the fractured surfaces. The latter are the most important and most difficult to overcome and can not be obviated except by operation. The operation is justifiable if done in an absolutely aseptic manner. In every case the fragments of the broken patella are covered with fibrous tissue. Multiple fracture is another complication which makes mechanical coaptation uncertain and difficult. Gibbon believes that the treatment of fractures of the patella should consist either of the simple splint method or of one of the operative procedures which include a complete exposure of the fractured bone and torn ligaments. All the intermediate methods, while possessing none of the advantages of the open method, have the same danger as the open method, namely, sepsis. Reference was made to Stimson, who, in about forty cases in which the subcuticular suture was used, had two severe infections with stiff joint, while in a series of about two hundred cases treated by the open method there was but one slight infection and no stiffness of joint. Suture of the bone alone has passed out of use, the operation being done either by a simple suture of the lateral ligaments and fibrous tissue over the bone, or this with the addition of one or two sutures through the patella itself. Early operation is advocated. When operation is not done immediately, a tight bandage with ice bags should be applied to prevent effusion of blood. The incision recommended is a transverse curvilinear one, allowing easy access to the torn ligaments. An absorbable suture, preferably chromicized catgut, should be employed and the sutures should not be tied very tight. The leg should be dressed on a posterior splint and well elevated; the dressing changed at the end of a week and the stitches removed. Later the splint should be removed at frequent intervals and massage practiced. After three or four weeks the splint could be discarded, when the patient is in bed, and massage regularly employed. He advises passive flexion of the leg after four weeks. The period of convalescence after the operative treatment is less than half that following the splint method. The operative treatment should only be undertaken in a well-appointed operating room by a surgeon who has developed the "aseptic habit." Where the operator has not had a great deal of experience, and where the surroundings are not perfectly aseptic, it is wiser and safer to pursue the splint treatment, for, if suppuration occurs, a stiff joint, the loss of the leg, or even death might result.

DISCUSSION.

Dr. John B. Shober referred to the development of the open method and attributed the success attendant on it to the greater attention given to the ligaments in freeing the overlapping fibrous tissue. Formerly the major attention was given to the coaptation of the bones by the use of silver wire. He agreed that the operation is a serious one and to be undertaken only under conditions pointed out by the author.

Dr. John B. Roberts believes that the operation is a good one, but that in the treatment of fractures there is needed an operation which the average man can do, so that it would not be necessary to send all patients to experts. With the proper sterilization of the parts, the needle and the thread, with the subcutaneous purse-string suture, a practical and satisfactory operation is offered. The periosteum falling between the fractured ends of the bone he gets rid of by rubbing the two parts together. This operation is so simple that it ought to take the place of the more serious ones which can only be undertaken under ideal conditions.

Dr. William L. Rodman believes the subcutaneous operation more dangerous than the aseptic open method. The open operation should be surrounded with restrictions in old subjects and in patients with visceral disease and confined to young men leading active lives. He does not believe that the soft structures falling between the ends of the bones can be eliminated, except by the open operation. He agrees with Dr. Gibbon in the advantage of the curvilinear incision. He does not approve of the use of buried silver wire, and has come to regard wiring the bone as being unnecessary. He prefers to wait for the subsidence of the acute inflammatory symptoms before operating.

Dr. A. C. Wood agreed with Dr. Gibbon in practically all he said. He believes that modern surgery tends more and more to get away from subcutaneous operations. A man who can not be trusted to open a joint can not be trusted to pass a subcutaneous ligature. He makes the incision above the patella through a part of the skin which is thick and on which there is no pressure. This also favors drainage. He still unites the bone, as well as the capsule and ligaments, though the method employed is a modification of that formerly practiced. When the parts are brought together, the knot is at a point where there is no pressure.

Severe General Infection of Obscure Origin.

Dr. H. B. Allyn reported two cases of severe general infection. The first patient, a boy, 4 years old, complained of abdominal pain, had vomiting and delirium, and died on the third day of a sudden, large, pleural hemorrhage. At autopsy pure cultures of an undescribed form of colon bacillus were obtained from the spleen and an enlarged mesenteric gland, and the same organism was found in the culture made from an enlarged Peyer's patch. The disease was not hemorrhagic typhoid. The second patient, a boy, 9 months old, developed, in succession, a small patch of consolidated lung, vomiting, purpura, otitis media, arthritis, bronchitis, nephritis, meningitis, and died after an illness of twenty-five days. There was no autopsy. Cultures made from the throat mucus and the spinal fluid showed only a small diplococcus, which was not that of pneumonia or cerebrospinal meningitis.

A New Method of Surgical Anesthesia.

Dr. W. Wayne Babcock called attention to the fact that the mandragora used by surgeons from the time of Herodotus until the thirteenth century contained scopolamin, which has now, after the lapse of seven centuries, been re-introduced into surgical practice. Babcock has experimented with a number of solonaceous and hypnotic alkaloids, and finds that apomorphin is the most powerful adjuvant in scopolamin-morphin narcosis. When aided by apomorphin, over 70 per cent. of the patients have been successfully narcotized, while previous writers have only succeeded in narcotizing from 9 to 26 per cent. of their patients, the remainder requiring ether or chloroform. The method is as follows: One-sixth gr. of morphin sulphate, with 1/100 gr. of scopolamin hydrobromate, is given one hour before the operation, followed by an edema containing spiritus ætheris comp., ½ oz.; spiritus fermenti, ½ oz.; warm water, 4 ozs. Fifteen minutes later the hypodermic is repeated, and twenty minutes after the second hypodermic, a third containing 1/100 gr. of scopolamin, with 1/30 to 1/12 gr. of apomorphin hydrochlorate, is given. The dose of apomorphin is regulated by the condition of the patient and the strength of the pulse, and is usually followed in from three to ten minutes by surgical anesthesia. If the patient shows a tolerance for drugs, the apomorphin, at times associated with morphin, is repeated in a dose proportionate to the patient's condition. In a small percentage of cases which prove rebellious to the narcotic, it might be desirable to administer cautiously a minute quantity of ether or chloroform rather than to repeat the injection of the narcotics. The anesthesia produced, as a rule, lasts two or more hours, and the patient usually is in better condition toward the end of the operation than near the beginning. The method has been used successfully as the sole anesthetic in operations on the skull, face, larynx, gall bladder, stomach, kidneys, pelvic organs and extremities, and Babcock thinks it has a special field in operations involving the upper respiratory tract.

Notes on General Anesthetics, with Special Reference to *Scopolamin-Morphin Anesthesia.*

Dr. A. C. Wood's paper corresponded closely with Dr. Babcock's. His experience regarding the time required for full anesthesia differed somewhat from that of Dr. Babcock. The real difference is not so much due to the idiosyncrasy of the patient as to the question of a reliable and uniform preparation of the drug. The contraindications for administration are of more importance than the indications. This form of anesthesia might be used in any case in which there are no contraindications, provided absolute muscular relaxation is not essential. It is a satisfactory adjuvant to ether and chloroform. He would hesitate to use it in operations involving the mouth and air passages, fearing that with the profound narcosis sometimes produced the patient could not take care of the mucus or blood in the mouth. In 15 cases in which he has used it, the success might be considered perfect in 8. In one appendectomy there was no movement of the muscles, no nausea, and the convalescence was satisfactory in every way. He believes that the results in the use of the anesthetic would be better in proportion with the greater care exercised in its selection and administration.

DISCUSSION.

Dr. William L. Rodman's experience with this form of anesthetic was limited to one case, and that one case enabled him to confirm what had been said by the two essayists. While the anesthesia was not complete, it was made so by a very small quantity of ether. He thought that it could only be looked on as an adjuvant to ether and chloroform. He thinks it might be of much value in operations on the genito-urinary tract. He thinks all surgeons are remiss in not more fully availing themselves of the use of nitrous oxid preceding the administration of ether.

Dr. Ernest Laplace has used scopolamin-morphin a few times, and, while the effects are encouraging, he has not dared go as far as indicated by the papers read. He stated, however, that, with ether as a concomitant, there have been but very few subsequent unpleasant symptoms.

Dr. Alice M. Seabrooke referred to three cases at the Woman's Hospital in which scopolamin-morphin had been used with success. One was a case of carcinoma of the omentum, one a hysterical child, and the third case that of an aged woman with gallstones.

Dr. H. C. Wood thinks morphin anesthesia a better term than scopolamin-morphin. The question of the introduction of a new anesthetic depends on its comparative safety. The number of cases in the present issue is so small that no absolute deductions can be drawn. It has been demonstrated that the administration of morphin preceding ether lessens many of the unpleasant sensations produced by ether, but it depresses respiration. Nitrous oxid gas is a much better drug to precede ether.

Dr. John B. Roberts said that if scopolamin is identical with hyoscin he can not understand the necessity for such small doses as had been indicated.

Regular Meeting, held Sept. 13, 1905.

The President, Dr. J. M. Anders, in the Chair.

Anorexia in Infants in Hot Weather.

Dr. Maurice Ostheimer called attention to this condition, in which often the only symptom is the refusal of the child to take the proper amount of nourishment. To find cause for this loss of appetite, when there are no symptoms, he said is difficult, and there must be considered the possibility of functional derangement of the gastrointestinal tract. In one case an increase of the proteids in the milk mixture up to 2 per cent. helped the child, but only after two months did the child take more food at each feeding. In some cases he stops all food and gives barley water and whey. He especially called attention to the fact that anorexia occurs only during hot weather and that often it is cured only by removal to a cooler climate.

Rest in Tuberculosis.

Dr. William B. Stanton considered the treatment of tuberculosis under the heads of: 1, Abundant food; 2, fresh air; 3, regulation of the exercise. He pointed out the danger incident to injudicious exercise. The amount of exercise to be taken, he said, depended on temperature, pulse rate, respiratory rate, degree of emaciation, existence of complications in heart, kidneys, bladder, intestines etc. Constant temperature above 100 degrees or elevations to this extent in usually afebrile cases, call for absolute rest in bed. Remittent temperature when above 101 in the afternoon, also indicates rest. If the temperature is only 100 the patient may be allowed up, and exercise may be begun when the temperature is below 100 degrees. A pulse rate of 120 in the morning indicates rest. With a pulse rate of 110 or under the patient may sit up, and exercise may be begun when the pulse rate falls below 100 when resting. Breathing rate, he said depends usually on the degree of involvement and the competency of the heart. Marked emaciation contraindicates exercise, even if other signs are favorable. Rest should be insisted on until a satisfactory gain in weight is obtained. The complicating disease should decide the amount of exercise, bearing in mind that rest is even more necessary where two depressing influences are present. He recommended walking as the best and most easily regulated form of exercise. The gait should be slow, and at first the walking should be done only on level ground.

Suppression of Criminal Abortion.

The committee—consisting of Drs. Francis M. Perkins, Charles W. Burr and Henry W. Cattell—appointed by the society to aid in the prosecution of criminal abortionists, reported that thirty cases had been investigated and that each of the thirty persons had either left the city, was under police surveillance, was a fugitive from justice, was awaiting trial, or was in prison. As an additional example of results, it was stated that the Sunday edition of one of the newspapers, formerly carrying from ten to seventeen advertisements of criminal abortionists, no longer printed such material. The hope was expressed that the matter would be taken up by the state society and the American Medical Association. The report has been published in The Journal, Oct. 7, 1905, page 1095.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Asthma.

Kohn, in the *Med. Record*, after a thorough discussion of the disease and its causation, divides the regular methods of treatment into these nine classes: climatic, hygienic, symptomatic, gymnastic, psychic, hydrotherapeutic, medicinal, operative, institutional.

(1) *Climate.*—As a rule, a high altitude relieves asthmatic paroxysms; e. g., there is no doubt that on the high plateaus of New Mexico and Colorado these patients can live comfortably. A small minority of patients seem to get the most relief from the moist air prevailing at the sea shore. Again, some patients are benefited by removal from the city to the suburbs, and others have gained the most relief by removal from the country to the crowded city. An ocean trip has been known entirely to suspend paroxysms in some cases.

(2) *Hygiene.*—This treatment consists in seeing that the functions of the skin and excretory organs are regularly performed; in regulating the metabolic functions; in modifying

the diet according to indications; forbidding overindulgence in food and drink, especially at night, and in interdicting all liquors, heavy wines and champagne. Light alkaline mineral waters like those of Saratoga, and seltzer, vichy, should be used in moderation to keep the renal functions active. The baths of Saratoga or the Virginia Hot Springs, or in Europe those of Kissingen and of Marienbad, are to be recommended.

(3) *Symptomatic Treatment.*—This consists in the indications in each individual case as, for example, in a patient with rheumatic symptoms, we should use the salicylates; in the gouty, colchicum; in the anemic, iron, arsenic, the glycophosphates, etc.; in those of a marked nervous or hysterical disposition, valerian or the valerianates. Uterine, cardiac, renal, traumatic or other cases should be treated accordingly.

(4) *Gymnastics.*—The gymnastic and respiratory, also the pneumatic cabinet and compressed air treatments, have met with considerable favor in Germany, and are best adapted for cases of bronchial asthma in which some lung dilatation has already taken place. The object sought is to prolong expiration. Simple calisthenic exercises and walking long distances in the fresh air have afforded much relief. It is further advocated that the patient be treated by exercises in breathing, which consist in counting slowly during each expiration for five minutes morning and evening. The next day count six, the following day seven, and so on until twenty is counted with each expiration; finally ten minutes mornings and evenings should be consumed in this way.

(5) *Psychic Treatment.*—Brugelmann lays much stress on the value of what he calls "education asthmatique," that is, enlightening the patient on the nature of his disease, and teaching him that by an effort of the will, asthma can be considerably ameliorated, and showing him the necessity of leading a perfectly well regulated life; the importance of proper diet, sufficient sleep, outdoor exercises, principally walking long distances or horseback riding, breathing exercises with inspiration as deep as possible; and of keeping the function of the skin and bowels regulated. There can be no question but that autosuggestion plays a most important rôle in the cure of the disease, as it does in its production.

(6) *Hydrotherapy.*—This is of undoubted value in the treatment of selected cases, especially those of a purely neurotic character without bronchitis; but this method of treatment should be used with great care, because of the sensitive peripheral nerves of these patients and their great reflex irritability. The lukewarm shower daily is recommended, followed by friction with warm towels; douching of the nape of the neck with cool water; when patients can not stand the shower, the lukewarm pack for three or four hours at a time every day, may be tried.

(7) *Medicinal Treatment.*—(a) During the attacks the following narcotics and analgesics may be given to abate it: Opium, morphin, chloral, bromid and phenacetin. In using morphin care must be taken not to establish the habit. Touching the pharynx with a mild solution of ammonia has cut short the asthmatic paroxysm in some cases. A hypodermic of 1/150 of a grain of atropin, the inhalation of a few drops of ether or chloroform, or the burning of stramonium and saltpeter powder, producing a dense smoke, have each been used with success in many cases. Nitrite of sodium, in doses of 2 or 3 grains hourly, has been used with effect, as also the inhalation of a few drops of nitrite of amyl. In some cases the inhalation of pure oxygen gas has proved very beneficial.

(b) Between attacks the treatment by drugs varies according to the individual case and its etiology. Generally speaking, however, the preparations of iodin have the most supporters. The author recommends from his own experience the use of iodid of potassium, begining with 1 grain given in milk three times a day. This dose should be increased daily until the patient takes from 25 to 30 grains a day. It should be noted carefully whether or not the patient bears the drug well. The action of the drug consists in stimulating gland secretion and in lowering arterial pressure. The iodid of sodium or iodid of strontium may be tried when iodid of potassium is not well borne. Atropin has had innumerable advocates as a remedy for asthma; it should be given in increasing doses during the course of disease, as high as from 1/6 to 1/8 grain being given during the twenty-four hours. The other drugs recommended in the treatment are arsenic given in gradually increasing doses, nitroglycerin, quinin, belladonna, iron, strychnin and the other tonics.

The following prescription is recommended for the cough:

℞.	Tincturæ lobeliæ.................m. x		06
	Heroin hydrochloratis.....gr. 1/24-1/12		0027-.0054
	Ammon. muriatis.................*gr. v*		*03*
	Spiritus ætheris comp. q. s. ad........ʒi	4	

M. Sig.: Give this amount at one dose.

Other remedies which have been found of value in the treatment of this condition are 1/1000 solution of adrenalin, which may be given hypodermically in doses of from 3 to 6 minims. Because of the anemic condition of the mucous membranes of the larynx and trachea it has been advised to give large doses of the nitrites.

(8) *Operative Treatment.*—Exaggerated claims have been made for the relief obtained in asthma by operations directed to the nasal passages. It is sufficient to say that the nares should be carefully examined and all growths removed, deformities corrected and hypertrophies reduced.

(9) *Institutional Treatment.*—In Germany this has many advocates; it is claimed that in a sanatorium for asthma, equipped with all the necessary aids to diagnosis and treatment, such as baths, pneumatic cabinets, compressed-air apparatus, gymnastic and electric appliances, and all other necessary instruments of precision, the best results can be achieved, especially when to all of these means is added the constant supervision by physicians who thoroughly understand the disease and its causation. The moral or psychic effect on an asthmatic on entering such a sanatorium with its ironclad rules and regulations and its systematized treatment is excellent; the knowledge that he is under the care of physicians, expert in the treatment of his disease, is in itself apt to have a very salutary effect. In this way autosuggestion plays a great rôle in relieving the patient of his sufferings; and if there is one recommendation that I would make, as a result of my studies on the subject, says Kohn, it is that just as we have sanatoria for nervous diseases or diseases of women, there should be such an institution created for the treatment of this most obstinate and baffling disease.

Medicolegal

Regulation of Employment of Expert Witnesses.

No. 175 of the Public Acts of Michigan of 1905 provides that no expert witness shall be paid or receive as compensation in any given case, for his services as such, a sum in excess of the ordinary witness fees provided by law, unless the court before whom such witness is to appear or has appeared awards a larger sum; and any such witness who shall directly or indirectly receive a larger amount than such award, and any person who shall pay such witness a larger sum than such award, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding $1,000, or by imprisonment in the county jail not to exceed one year, or both, in the discretion of the court, and may further be punished for contempt.

No more than three experts shall be allowed to testify on either side as to the same issue in any given case, except in criminal prosecutions for homicide; provided, the court trying such case may in its discretion permit an additional number of witnesses to testify as experts.

In criminal cases for homicide where the issues involve expert knowledge or opinion the court shall appoint one or more suitable disinterested persons, not exceeding three, to investigate such issues and testify at the trial; and the compensation of such person or persons shall be fixed by the court and paid by the county where indictment was found, and the fact that such witness or witnesses have been so appointed shall be made known to the jury. This provision shall not preclude either prosecution or defense from using other expert witnesses at the trial.

This act shall not be applicable to witnesses testifying to the established facts or deductions of science, nor to any other specific facts, but only to witnesses testifying to matters of opinion.

To Promote Anatomic Knowledge.

Chapter 134 of the Laws of North Dakota of 1905 provides that superintendents of penitentiaries, hospitals, insane asylums and poor houses, coroners, sheriffs, jailors, city and county undertakers, and all other state, county, town and city officials who shall have custody of any body, of any deceased person required to be buried at public expense, shall give permission to any physician or surgeon who is a licentiate of the state board of medical examiners, or to any medical school or college, public or private, of any city, town or county within this state, on his or their request therefor, to receive and remove free of charge or expense, after having given proper notice to the relatives or guardians of the deceased, the bodies of such deceased persons to be buried at public expense, to be by him or them used within the state for advancement of anatomic knowledge and medical science, preference being given to medical colleges or schools, public or private; such bodies to be distributed to and among the same equitably; the number assigned to each being in proportion to the students of each college or school; provided, however, that if any person claiming to be, and satisfying the proper authorities that he is of kindred of the deceased, shall ask to have, within thirty-six hours after death, the body for burial, it shall be surrendered for interment; and provided, further, that any medical college or school, public or private, or any officers of the same that shall receive the bodies of deceased persons for the purpose of scientific study under this act, shall furnish the same to students of medicine and surgery who may be under their instruction.

Any physician or surgeon who is a licentiate of the state board of medical examiners, or any medical college or school, public or private, before receiving any dead body or bodies, shall give to the proper authorities, surrendering to him or them a sufficient bond that said bodies shall be used only for the promotion of medical science within this state; and whoever shall use such dead body or bodies for any other purpose, or shall remove the same beyond the limits of this state, and whoever shall buy or sell any such bodies or body, or shall traffic in the same, shall be deemed guilty of a misdemeanor, and shall, on conviction thereof, be fined in the sum of $100, and any officer refusing to deliver the remains or body of any deceased person, when demanded under the provisions of this act, shall be guilty of a misdemeanor and shall pay a fine of not less than $50.

It shall be the duty of preceptors, professors and teachers, and all officers of medical colleges and schools, public and private, and all others who shall receive any dead body or bodies in pursuance of the provisions of this act, decently to bury in some public cemetery or to cremate the same in a furnace properly constructed for that purpose, after the bodies shall have answered the purposes aforesaid, and for any neglect or violations of the provisions of this act the party or parties so neglecting shall be guilty of a misdemeanor, and on conviction shall pay a penalty of $100.

Pure Drug Law.

Chapter 10 of the Laws of North Dakota of 1905 provides, under penalty, that it shall be unlawful for any person, his agent or servant, or while acting as agent or servant of any other person or corporation, to manufacture for sale, offer for sale, or sell within this state any drug which is adulterated within the meaning of this act. The term "drug" as used in this act shall include all medicines for internal and external use, antiseptics, disinfectants and cosmetics.

A drug shall be deemed to be adulterated: First—If, when sold under or by a name recognized in the United States Pharmacopeia, it differs from the standard of strength, quality or purity prescribed therein, unless the order therefor requires an article inferior to such standard, or unless such difference is made known or so appears to the purchaser at the time of the sale. Second—If, when sold under or by a name not recognized in the United States Pharmacopeia, but which is found in some other pharmacopeia or other standard work on materia medica, it differs materially from the standard of strength, quality or purity prescribed in such work. Third—If its strength, quality or purity falls below the professed standard under which it is sold; provided, that a drug or medicine shall not be deemed adulterated in the following case: If the standard of strength or purity of any drug has been raised since the issue of the last edition of the United States Pharmacopeia, no prosecution relative to it shall be maintained until such change of standard has been published throughout the commonwealth.

Every proprietary product, drug, medicine or beverage containing more than 5 per cent. of ethyl alcohol, or which contains chloral hydrate, ergot, morphin, opium or any of their compounds or derivatives, cocain or any of its salts, bromin, iodin or any of their salts, shall be clearly labeled in black open gothic letters, printed on a white background, showing the name and percentage of each of the foregoing constituents, and said label shall be affixed to each and every package, carton, box or bottle in such a way as to be clearly seen.

No sale or gift of cocain or of its salts shall be made, or delivery thereof made in this state, except on the written prescription of a licensed physician.

It shall be unlawful to sell, offer or expose for sale, or have in possession any preparation or product, intended for the use of man, either for internal or external purposes, which contains methyl alcohol or "wood spirits."

Nothing in this act shall be so construed as to in any way interfere with the written prescription of any regularly licensed physician or with the filling of the same by a licensed druggist.

The North Dakota government agricultural experiment station shall make analysis of drugs and medicines found on sale in North Dakota suspected of being adulterated, at such times and places, and to such extent as it may determine, and may appoint such agent or agents as it may deem necessary for the enforcement of the provisions of this act, and such agent or agents shall have free access and egress, at all reasonable hours, for the purpose of examining into any place wherein it is suspected any drug or medicine adulterated with any deleterious or foreign ingredient or which falls below the standard of purity or where such ingredients exist, and such agent or agents, on tendering the market price of said article, may take from any person, firm or corporation samples of any articles suspected of being adulterated as aforesaid. Whenever said station shall find, by its analysis, that adulterated drugs have been on sale in this state, or that said drugs are in violation of this act, it shall forthwith transmit the facts so found to the attorney general and the state's attorney of the county in which said adulterated product was found.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

November 11.

1 *Notes on Anesthetics, with Special Reference to Scopolamin-Morphin Anesthesia. A. C. Wood, Philadelphia.
2 *Importance of a Study of Nutrition. R. H. Chittenden, New Haven, Conn.
3 *Distinctive Features of Animal and Vegetable Dietaries. L. B. Mendel, New Haven, Conn.
4 Pathology and Etiology of Human Vaccinia. W. T. Howard, Jr., Cleveland, Ohio.
5 *Clinical Study of the Freezing-Point of Blood and Urine in Various Diseases. T. Tieken, Chicago.
6 Value of Paraldehyde in the Treatment of Insomnia. J. S. Christison, Chicago.

1. *Scopolamin-Morphin Anesthesia.*—Wood epitomizes his personal experience with scopolamin-morphin anesthesia as follows: It is capable, in many cases, of producing a satisfactory surgical narcosis lasting several hours. When successful, the patient avoids the anxiety or even alarm often felt before taking ether, and the nausea, vomiting, and depression following its administration. If it should partly or wholly fail to anesthetize the patient, the surgeon may use

ether or chloroform, with the assurance that the effect will be more prompt and satisfactory than when either is administered alone. When used in conjunction with ether or chloroform, it has been especially satisfactory. The time required to induce anesthesia was lessened, relaxation promoted, the secretion of mucus in the respiratory tract prevented, and, what is very important, the quantity of anesthetic required was greatly reduced. To induce full anesthesia in the average healthy adult, Wood recommends 0.0006 gm. (1/100 gr.) scopolamin and 0.01 gm. (1/6 gr.) morphin, to be given hypodermically two or two and a half hours before operation, and a second similar dose an hour later. If the anesthesia is not sufficiently complete half an hour before operation, a third dose may be given. This may be the same as the two previous doses, or may consist of either drug alone, or of scopolamin in conjunction with apomorphin, according to the special indications present. The doses should be considerably reduced in children, feeble patients, and in advanced age. None of Wood's patients remembered feeling any pain, or any other detail of the operation, although in some instances the patient gave evidences of the presence of sensation at the time. This preparation is contraindicated in acute affections of the pharynx and larynx; in operations involving the mouth or air passages; in edema of the lungs, and in cases in which capillary hemorrhage may be a troublesome factor. As both scopolamin and morphin are powerful drugs, prudence demands that they be used with caution. In addition to the caution mentioned, the safety and success of the method depend on having pure and reliable drugs, accurate dosage, and perfectly fresh solutions.

2. **Importance of Study of Nutrition.**—Chittenden says that physicians should have a full and complete knowledge of the various processes of nutrition so that they may be able to correct those deviations from the normal which are characterized as disease. There can be no exaggeration in emphasizing the importance of the *daily* diet in the *maintenance* of health and in the establishment of a proper and normal condition of nutrition. Prevention is better than cure, and, says Chittenden, we may well ask whether, with a proper understanding of the true laws of nutrition, of the real needs of the body for food, with a clear conception of the processes of digestion, secretion, absorption, peristalsis, circulation, and excretion, we should not be in a better condition to combat disease than we now are. In his opinion, two, at least, of the dread diseases of mankind, namely, cancer and tuberculosis, are possibly connected with a disturbance of nutrition in which, perhaps, the predisposing causes are to be found in an excess of nutritive material, in general, in the blood, or to a disturbance in the balance of nutritive materials between the circulating medium or possibly in the tissues themselves. Chittenden believes that there is much of value to be learned in a study of the minimum quantities of food required to maintain health and strength, because the real needs of the body for food are unquestionably very much below the amount ordinarily consumed, and, this being true, is it not possible that this excess of food, for which the body has no physiologic need, in the long run imperils the health of the individual, diminishes the ordinary powers of resistance, and so paves the way for various forms of disordered nutrition spoken of as disease.

3. **Animal and Vegetable Dietaries.**—Mendel contrasts the relative values of animal and vegetable dietaries. He says that vegetarianism undoubtedly has its place in ameliorating various functional disorders. In the treatment of obesity, certain forms of neuralgia of unknown origin, and of gout in many instances, the strict diet renders effective aid. In estimating food values, not only the composition of the food, but also the degree of its utilization in the alimentary tract must be considered. No exclusive system of diet deserves defense on scientific ground.

5. **Study of Freezing Point of Blood and Urine.**—Tieken reports the results of his observations of the freezing point of blood and urine in surgical diseases of the kidneys and of the urinary tract. His conclusions regarding the value of cryoscopic examination of the blood and urine in surgical diseases of the kidneys coincide with those of Kümmel, Rumpel and others, namely, that it is of value in this class of cases, because it shows whether or not the remaining organ is competent. In diabetes mellitus, of a severe type, he usually finds a concentration of both the blood and urine, but the percentage of sugar in the urine bears no constant relationship to the freezing point, as claimed by some recent writers. He was unable to demonstrate a molecular concentration of the blood in abdominal tumors not of renal origin, unless great pressure was exerted, disturbing the renal function. Tieken thinks that cryoscopy, when employed with a thorough understanding of its limitations and possibilities, may be of conceivable value to both the physician and surgeon, as a diagnostic and prognostic aid, in certain pathologic conditions.

Medical News, New York.

November 11.

7 *Sea-Air Treatment of Tuberculosis of the Bones and Glands in Children. J. W. Brannan, New York.
8 *The Influence of Climate in Pulmonary Tuberculosis. C. L. Minor, E. R. Baldwin, S. E. Solly, C. F. McGahan and others.
9 Case of Spinal Apoplexy with Findings. W. Browning and F. Tilney, Brooklyn, N. Y.
10 Thrombosis of the Receptaculum Chyli and Chylous Ascites as a Complication of Cirrhosis of the Liver. H. J. Nichols, Washington, D. C.
11. Strictures of the Urethra; Their Pathology and Treatment. E. C. Ballenger, Atlanta, Ga.
12 Treatment of Tuberculosis. I. H. Hance, Lakewood, N. J.

7. **Sea Air Treatment of Tuberculosis in Children.**—Brannan details the excellent results achieved in the treatment of children suffering from tuberculosis of the bones and glands at the Summer Home on Coney Island.

8. **Influence of Climate in Pulmonary Tuberculosis.**—This committee states that if we look for the causes of the tendency to doubt the value of climate in the treatment of tuberculosis they are to be found, first, in the unskillful use in the past of climate as a therapeutic measure; second, in the formerly widely spread belief in a mysterious specific influence of climate which led to a superstitious faith in its unaided powers and, therefore, to a neglect of those even more important matters, hygiene, diet, instruction and detailed supervision; third, in a lack of appreciation of what the climate has been doing for them all the time. Realizing, then, as we now do, that the very first aim in the treatment of tuberculosis is and must always remain the raising of the vitality of the patient's system until it is able itself to conquer its disease, we see that the beneficial effect of climate depends on its wonderful power in vitalizing the system, on its beneficial effects on metabolism, on its awakening of dormant or waning natural powers. No advanced workers in this line would to-day, as was formerly done, place climate first in the order of therapeutic measures. Let it never be forgotten that hygiene, diet, *teaching and supervision must always come first, but, granted that* they are properly attended to, then enters the powerful rôle of climate, reinforcing and accentuating the effects of these other measures, and yielding results that can not be approached even with the same care and watching and food in less favorable localities. The elements in climate which have a beneficial influence are, in the order of their importance, (1) an abundance of chemically and bacteriologically pure fresh air; (2) sunshine; (3) coolness, or, in a certain number of cases, warmth; (4) dryness, or, in a few cases, a moderate degree of humidity; (5) altitude; (6) wind to which the patient is not directly subjected, provided vegetation is sufficient to prevent dust storms, is beneficial; (7) equability; (8) proper soil. Brannan says that a climatic resort should be looked on as a university to which the patient goes to get under proper conditions that discipline and instruction which he will bring back with him into his daily life at home, where he should serve as a teacher of those with whom he is thrown. The physician in a climatic resort will be of use to his patient in proportion as he is able to be a forceful and stimulating teacher.

Medical Record, New York.

November 11.

13 *Notes on Non-operative Gynecology. S. J. McNutt New York and Albany.
14 *Non Gonorrheal Urethritis. H. G. Spooner, New York.
15 *The Stomach in Pulmonary Tuberculosis, and the Effect of Gastric Juice on the Bacillus Tuberculosis. E. Palier, New York.
16 *Treatment of Perforations of the Tympanic Membrane with Especial Reference to the Use of Gutta-Percha Tissue. D. G. Yates, New York.
17 Transverse Incision in Abdominal Operations. A. E. Rockey, Portland, Ore.

13. **Non-operative Gynecology.**—McNutt maintains that in many instances a woman with pelvic or abdominal disease may recover under medical treatment only, without operation. The cases calling most urgently for operative treatment are those of pelvic or abdominal tumor, the accidents of childbirth, malignant disease, and pus collections. In order to deal successfully with the non-operative cases it must be remembered that many of the symptoms present are reflex in origin. Hence, the treatment must be general as well as local. The most frequent general symptoms are the derangements of secretion and excretion, anemia and nervous symptoms. The most frequent local conditions are (1) displacements of the uterus, with or without displacements of the adnexa; (2) catarrhs, acute, subacute, and chronic, confined to the uterus; (3) the same, with extension to the tubes and secondary involvement of the ovaries. In many cases one can use local treatment indefinitely and utterly fail to cure the patient if with it does not go general medication and hygiene. This includes diet, clothing (few women dress properly), and carefully regulated out-of-door life, with some interest to divert the mind from introspection.

14. **Non-gonorrheal Urethritis.**—In view of the fact that the causes contributing to the production of urethritis are so numerous as to be beyond comprehension, Spooner prefers a classification based on the clinical conditions in which cases of non-gonorrheal urethritis have been observed. He suggests the following classification: (1) Urethritis caused by external irritation: Coitus, catheterism, ungratified erections (?) masturbation (?), medicated injections. (2) Urethritis caused by internal irritation, mechanical, chemical, and tonic, of constitutional origin: Food, drinks, drugs, gout (?), rheumatism (?), arthritic diathesis (?), diabetes (?), herpes, mumps (?), syphilis (?), tuberculosis, typhoid fever (?). From the clinical point of view differential diagnosis is impossible, but, as a rule, in non-gonorrheal urethritis the incubation period and the course are shorter and less painful than in the specific form. Non-gonorrheal urethritis of constitutional origin must be treated so as to remove the exciting cause. When due to pyogenic bacteria the treatment is the same as in gonorrheal urethritis. Some cases of aseptic urethritis of unknown origin are not influenced by any form of treatment.

15. **The Stomach in Pulmonary Tuberculosis.**—Palier has studied the gastric conditions present in a number of cases of pulmonary tuberculosis, most of the patients being men between the ages of 22 and 45. He describes several of these, and says that his observations lead him to believe that in about 60 per cent. of the cases of incipient consumption there is hyperchlorhydria, in 20 per cent. the stomach is about normal, and in about 20 per cent. there is hypochlorhydria. The diet, therefore, must vary in different cases of the disease, and it is necessary to study the condition of the patient's stomach before it is possible to lay down rules for his nutrition. The stomach tube is not likely to do harm if carefully used. The effect of gastric juice in the tubercle bacilli in the sputum swallowed was also investigated. It appears that the normal gastric juice is bacteriolytic to the tubercle bacilli, but *in vitro* the process is very slow. The author believes, however, that in the stomach it is much more active, so that ordinarily no bacilli can pass the normal stomach and reach the intestine in virulent condition. In hypochlorhydria they undoubtedly can, and also under any conditions on repeated ingestion some may find opportunities to slip through and to cause disease. The frequency of hyperchlorhydria with hypersecretion in pulmonary tuberculosis, the author believes, explains the frequency of gastric ulcer in this disease.

16. **Treatment of Perforations of the Tympanum.**—Yates recommends the use of patches of rubber to be applied over the perforation, so as to make an air-tight joint, in the treatment of recent or long-standing cases of this injury. In applying a patch to the drum a piece of rubber is selected, which is about twice the size of the hole to be covered. The canal and drum are thoroughly sterilized by syringing and mopping, and dried. If necessary, the edges of the perforation are pared or touched with nitrate of silver. The disc is carried into the drum by means of forceps or a cotton-tipped probe through a speculum, if small, without it if too large. It is then pushed into position and the edges pressed down firmly all around. No adhesive material is necessary. The rubber is most conveniently sterilized by keeping it in alcohol or other antiseptic for a few moments while other preparations are being made. The patch hastens the reparative process and at the same time effects an immediate improvement in the hearing. Yates sums up the advantages of rubber tissue used in this way as follows: (1) It is convenient, easily sterilized and applied. (2) It is flexible, remains in place for a long time, and requires no adhesive material. (3) In large perforations it has the advantage over the various forms of artificial ear drums in not causing pain or irritation or setting up a discharge. It helps to heal at the same time that hearing is being improved. (4) Healing is rapid and the formation of scar tissue, which is likely later to give way or to become the seat of calcareous deposits, is reduced to a minimum.

Boston Medical and Surgical Journal.

November 9.

18 *President's Address Before the American Hospital Superintendent's Association. G. H. M. Rowe, Boston.

19 *Observations on the Comparative Value of Different Methods of Applying Plaster Jackets in Spinal Caries. E. G. Brackett and L. R. G. Crandon, Boston.

20 *Treatment of Chronic Prostatic Enlargement. J. P. Lewis, Boston.

18. **American Hospitals.**—In this address Rowe details much of interest to hospital superintendents, as well as to the general profession. According to his statistics, New York has the largest number of public hospitals; Pennsylvania is second; Illinois third; Massachusetts fourth, and California fifth. Nevada is the only state which has no hospital, either public, private or ecclesiastical. New York also leads in the number of private or corporation hospitals. Illinois leads in the number of ecclesiastical hospitals. Of the total number of hospitals in this country, 220 are public, 442 are ecclesiastical and 831 are private institutions. Training schools for nurses are maintained by 867 hospitals. The ratio of training schools among the states is much the same as the number of hospitals. Oklahoma is the only state or territory that has no training school for nurses. The number of patients treated during the year was 1,064,512, 20 per cent. of these entering the hospitals of the State of New York; Pennsylvania comes next with 10 per cent., Illinois with 8 per cent., and Massachusetts with 4 per cent. Rowe believes that if large hospitals must increase their bed capacity it should be done by establishing branch hospitals somewhere outside the crowded city, but easy of access. The branch hospital should be used for emergency work and the main hospital for the treatment of general cases. He also advocated better utilization of the hospital for teaching purposes.

19. **Value of Plaster Jackets.**—Brackett and Crandon record the results of their observations made for the purpose of comparing the various methods of applying plaster jackets with reference to their use in various regions of the spine; to ascertain whether or not there resulted any attendant evils, immediate or remote, from the attempt to obtain the greatest possible correction; to test the fork apparatus, and to determine a way of estimating the weight of the finished jacket at the time of its application, as well as the minimum weight for a durable jacket. They found that lumbar disease improves under any method, but with the balance in favor of the hammock. Dorsolumbar and dorsal disease shows a gradual increase by any method of extension that brings about a compensatory increase of the normal lumbar curve. In disease involving the fourth dorsal vertebra (high dorsal) the spine may be held erect by either form of dorsal support, provided the jacket is carried high in front. Care is necessary, however, to avoid postural defects. The ventral position is adapted for all cases of lumbar disease. It is also applicable to dorsal cases, in which the portion covering the anterior chest is left until the patient is removed from the hammock, and the jacket finished in the sitting posture, with the patient held back in the extended position. The dorsal position is adapted to disease in either the lumbar or dorsal regions, but particularly to the dorsal. The fork is rather the more applicable to the dorsolumbar and lower dorsal, and the rods to the higher dorsal cases. In the old cases with deformity care must be taken

to avoid lordosis. The control of this by the flexed thighs is more apparent than real. The poise or balance in the standing position after the application of the jacket is a valuable guide and should be taken into account. The most accurate way of estimating the weight of the finished jacket is by the weight of the rolls before wetting. The shrinkage in weight is equal to about 9 per cent. of the rolls before wetting. A jacket of about 1 pound 12-14 ounces should be sufficient for a child of from 3 to 5 years of age, and a jacket of 2 pounds 10 ounces' weight sufficient for a child of from 10 to 12 years.

20. **Treatment of Chronic Prostatic Enlargement.**—Lewis presents the following conclusions: 1. The use of sounds is generally to be condemned. 2. The sphere of usefulness of the catheter is growing smaller and smaller as the advantages of an early operation make themselves manifest. 3. The Bottini operation may be applicable in selected cases, but should seldom, if ever, be adopted. 4. Orchidectomy, vasectomy, ligation of the internal iliacs, injection of carbolic acid, application of electricity and allied methods, he says, are to be condemned. 5. Prostatectomy is the procedure of choice, best performed when the symptoms first make themselves manifest and the patient's condition is presumably at its best. 6. The preferable route is through the perineum, the preferable method that of Young or one of its modifications, but much depends on the skill of the operator in the method employed. 7. In patients with foul bladders and diseased kidneys who, we have reason to expect, would not stand an extensive operation, thorough drainage should first be instituted either by a suprapubic or perineal incision under local anesthesia, to be followed later by enucleation, if deemed advisable. 8. The use of local anesthesia, especially spinal cocainization, is of great value, and should be more extensively employed.

New York Medical Journal.

November 11.

21 Skiagraphic and Therapeutic Factors in Tuberculosis of the Bones and Joints, with Some Reference to the Iodoform Treatment. (To be continued.) C. Beck, New York.
22 Relation of Milk to Typhoid Fever in New York City. J. S. Billings, Jr., New York.
23 *Case of Puerperal Convulsions in which Cesarean Section was Required. F. T. Woodbury, U. S. A.
24 *Treatment of Leukemia and Pseudoleukemia by the Roentgen Rays. A. Holding and M. Warren, New York.
25 *Ocular Symptoms of Gout. K. K. Wheelock, Ft. Wayne, Ind.
26 Chronic Headache and Its Treatment by Massage. (Continued). G. Norstrom, New York.
27 *Talma's Operation. G. C. Stemen, Denver, Colo.

23. **Cesarean Section for Puerperal Convulsions.**—The indications for operation in this case, reported by Woodbury, were the urgent necessity of emptying the uterus of its living contents on account of puerperal convulsions with rigid os after two failures of delivery by forceps. Version was regarded as being contraindicated by the absence of amniotic fluid and the inertia of the uterine muscle. The section was performed after Saenger's method, and a living child was extracted. The uterus was closed with interrupted sutures of catgut prepared by the Claudius method; the peritoneum and fascia were brought together with continuous sutures of the same and the skin with interrupted sutures of silkworm gut. The patient rallied well from the operation, but on the seventh day the temperature rose rapidly, and in spite of all efforts she rapidly grew weaker and died in coma.

24. **Roentgen Ray in Leukemia.**—A study of the literature by Holding and Warren shows that 25 cases with splenomyelogenous leukemia treated by the *x*-rays have been reported; 15 were improved; in 2 cases there was no improvement or the cases terminated fatally. Second, 8 cases of patients with lymphatic leukemia treated by the *x*-rays have been reported; no patients were cured; three were improved; and in five cases there was either no improvement or a fatal termination. Third, 22 cases of patients with pseudo-leukemia similarly treated have been reported; 6 were symptomatically cured; 13 were improved, while in 3 cases the condition was either unimproved or the case terminated fatally. Two cases are reported by the authors, and attention is directed to the following points: First, the marked action which the *x*-rays have on the lymphatic system and blood-making organs; second, its palliative action in cases of leukemia and pseudoleukemia, and to suggest that in some cases even curative effects may be hoped for; third, further observation of the action of the *x*-rays in this class of diseases is recommended.

25. **Ocular Symptoms of Gout.**—Wheelock reports four cases in which the ocular evidence of gout was followed by local manifestations of undoubted character. The following tissues of the eye are known to be affected by gout: Iris, choroid, sclera, retina and lens. Among the conditions observed are the following: Iritis, plastic and serous; cyclitis, plastic and serous; choroiditis, retinitis, retrobulbar neuritis, scleritis and episcleritis; cataract; hemorrhagic retinitis and glaucoma. Wheelock has observed all these conditions, except involvement of the lens, and has felt certain that the origin was gouty, yet in many cases, the evidence followed the administration of colchicum and potassium iodid. He also recognized gout as the causative factor in several forms of keratitis.

27. **Successful Talma Operation.**—Stemen operated on his patient in November, 1904, employing the method advocated by Talma as nearly as possible. There have been no unfavorable symptoms since the operation. The patient has gained in weight; his nutrition is good and there has been no ascites nor any evidence of a return of the original condition.

Lancet-Clinic, Cincinnati, Ohio.

November 11.

28 Causation of Eclampsia. J. W. Rowe, Cincinnati.
29 Data Concerning Uterine Cancer. A. P. Cole, Cincinnati.

American Journal of Medical Sciences, Philadelphia.

October.

30 Surgical Intervention for the Intracranial Hemorrhages of the New-born. H. Cushing.
31 *Intestinal Perforation in Typhoid Fever in Early Life. J. P. Crozer Griffith, Philadelphia.
32 *Case of Acute Leukemia, with Some Striking Clinical Features. D. L. Edsall, Philadelphia.
33 *The Effect of Certain Diet Cures in Diabetes Mellitus. J. Friedenwald and J. Rubräh, Baltimore.
34 Gangrene of the Tonsil. C. W. Richardson, Washington, D. C.
35 *Preventive and Remedial Treatment of Acute Rheumatic Endocarditis. B. Robinson, New York.
36 Chylous and Chyliform Effusions into the Serous Sac. J. G. Wilson, Philadelphia.
37 *Case of Metastatic Endothelioma. E. J. Wood, Wilmington, N. C.
38 Excretion of Acetone and Diacetic Acid in Vomiting of Pregnancy. H. Baldwin, New York City.
39 A Procedure for Opening the Pericardium. J. H. Bacon, Cleveland, Ohio.
40 *Permeability to Bacteria of Surgeons' Rubber Gloves. H. Fox and E. A. Schumann, Philadelphia.
41 Effect of Experimental Conditions on the Vascular Lesions Produced by Adrenalin. L. Loeb and T. C. Githens, Philadelphia.
42 *Brachial Birth Palsy. L. P. Clark, A. S. Taylor and T. P. Prout, New York.

31. See abstract in The Journal, June 3, 1905, page 1797.

32. Id. Page 1800.

33. **Effect of Diet Cures in Diabetes.**—Friedenwald and Rubräh bring forward certain diet cures which have assumed some importance during the past few years, such as the milk cure, the potato cure, and the oatmeal cure. Their observations with the use of milk as a form of diet in diabetes are in accord with those of von Noorden. They have rarely found it advisable to place any of their patients on an exclusive milk diet, except in those severe cases of diabetes in which diacetic acid is present in the urine and in which the patient is threatened with the onset of diabetic coma or in which this condition had already set in. On the other hand, they have utilized from one-half to a liter of milk daily in many of their cases of diabetes in addition to other allowable foods, often with excellent result. They have never followed Mosse's plan, that of replacing all carbohydrates by potatoes, but have rather followed the method suggested by von Noorden, that of replacing a portion of the bread by this form of food. A patient who is permitted to consume 100 grams of bread a day can take 300 grams of potatoes, so that at least a certain proportion of the bread can be replaced by this form of food. They have never seen the slightest harmful effect produced by the use of potatoes, even in severe forms of diabetes. In a not inconsiderable number of cases very beneficial results were obtained. The potato has an additional advantage, in that it lends variety in furnishing carbohydrate food as it can be prepared in various ways, and again as being a means to which fatty food, such as butter, can be furnished the body in large quantities. The oatmeal cure

was found especially useful in those forms of diabetes exhibiting diacetic acid in the urine. In the mild forms it is not only a useless treatment, but may even prove harmful. In the severe forms of diabetes remarkable results have been obtained with the oatmeal cure. The authors believe that these cures are valuable aids in the treatment of diabetes, but urge that great care must be practiced with the use of these various forms of diet. Each case must be studied individually and must be watched carefully in order to obtain the best results.

35. **Treatment of Acute Rheumatic Endocarditis.**—Robinson has found that no antirheumatic remedy is so useful and so free from objections as salicin. Salicin has been given in doses of 30 grains every hour for eight doses, and subsequently in 20 grain doses every two hours for one or several days, without occasioning appreciable accidents of any kind, and apparently with only relief to the patient's symptoms and general condition. It does not produce any headache or nausea. By the use of salicin the poison of rheumatism may be neutralized, the disease shortened, and thus there is less likelihood of having endocarditis appear. If the endocarditis exists already, it is advisable to continue the salicin to prevent further cardiac complications. In cases of subacute and chronic rheumatism, in which Robinson has given salicin many times in small or moderate doses, more or less frequently, he has repeatedly known symptoms to disappear completely or be much ameliorated in a few days or weeks, and without any intercurrent manifestations of an unfavorable nature which could be attributed to its use. Robinson cautions against interrupting the treatment too soon or reducing the amount of the drug too rapidly. In the case of children, when the heart becomes involved, Robinson has found it preferable to administer salicin, because it is a safer remedy than salicylate of soda.

37. **Case of Metastatic Endothelioma.**—Wood reports the case of a man, aged 43, whose family and personal history was negative, who four years ago noticed a small nodular mass on the surface of the right testicle. The testicle became painful and began to increase in size; it was firm in consistence and showed no sign of breaking down in any part of it. This condition gradually increased until the final removal of the testicle in the same year. Two years later the left testicle became similarly affected and was also removed. In both instances a diagnosis of sarcoma was made, which was confirmed microscopically. In 1904, following a fall, the patient began to complain of backache. This pain persisted with intervals of comparative freedom, followed by exacerbations which would necessitate remaining in bed several days at a time. During this time the man kept his full weight and showed no signs of cachexia. All the organs were normal, except the left kidney, which could not be palpated in its normal position. The provisional diagnosis was made of malignant disease of the left kidney. An exploratory incision revealed a kidney enlarged to about three times the normal size, and placed almost transversely across the abdomen. A nephrectomy being found impracticable, nothing more was done. A few days later the right leg was considerably edematous. It gave the patient some discomfort, though it was not acutely painful. The edema soon extended to the scrotum. Ten days after the operation the patient was seized with pain in the side and became cynosed. He began to have a prune juice expectoration, developed a temperature, and finally became delirious. Twenty hours later he died with a large pulmonary hemorrhage. Tumors were found in the kidney, liver and lung. Microscopic examination showed these tumors to be endotheliomas. Wood concludes that the tumor of the testicle was unquestionably a large, round-cell sarcoma and that this was the original source of the disease. This being the case, and the metastatic tumors being of the endothelial variety, it may be taken as evidence that endothelioma is a sarcomatous tumor. It is notable in this case that the metastasis was exceedingly slow for a sarcoma, nearly five years elapsing from the time of invasion to death.

40. **Permeability of Rubber Gloves to Bacteria.**—Fox and Schumann selected at random from a lot purchased for hospital use six pairs of rubber gloves and subjected them to experiments which showed conclusively whether or not the rubber glove is an absolute safeguard against the implantation of bacteria from the hands of the surgeon to the field of operation. The results of these experiments were such as to justify the authors in arriving at the conclusion that rubber gloves are absolute barriers against wound infection by the hands of the surgeon in so far that they are absolutely bacteria proof. Any infection occurring must be introduced into the wound from some point not protected by a glove.

42. **Brachial Birth Palsy.**—Clark, Taylor and Prout's research embodies new facts in the etiology and pathology of the laceration type of birth palsy, the development of the relationship thereto of the symptomatology, and the establishment of a scientific basis for treatment. They found that the cause of the laceration type of birth palsy is tension on the nerve trunks, which first ruptures the nerve sheath and then the nerve fibers. The prevention of this serious lesion of the cervical nerve trunks rests with the obstetrician, who should not overstretch the child's neck in the process of delivery. The persistence of the palsy is clearly explained by the pathologic findings, viz.: (*a*) Rupture of the perineurial sheath with hemorrhage into its substance, resulting in the formation of hematomata or hematomatous infiltration into the neighboring tissues. (*b*) The cicatricial contraction following organization of the blood clot and repair of the rent in the perineurial sheath. The connective tissue thus formed indents and presses on the nerve bundles, strangulating them and preventing regeneration of the nerve fibers. In some instances the same result is accomplished by turning inward of the perineurial sheath on the nerve bundles. The nature of the lesion in all cases demands excision of the damaged areas and suture of the divided ends as soon as it is proved that spontaneous repair will not take place. The plan of treatment is then the same as that for peripheral nerve injuries elsewhere. In all cases, such treatment as will prevent contractures and deformities and maintain muscle tone in the paralyzed limb should be systematically used until either spontaneous recovery occurs or operation is done. (Traumatic neuritis is a contraindication to active treatment.) It is obvious that the above measures should be continued after operation. The proper time for surgical interference is not yet definitely fixed. It appears, however, to be much later than two or three months after birth. At the present time one year would seem to be a reasonable delay before operation.

Illinois Medical Journal, Springfield.

October.

43 Diseases of the Bile Tracts. C. E. Black, Jacksonville.
44 Surgery of the Duodenum. E. M. Sutton, Peoria.
45 *Surgery of the Stomach. A. D. Bevan, Chicago.
46 *Surgical Treatment of Bleeding Ulcer of the Stomach. C. Beck, Chicago.
47 Parenchymatous Keratitis, Irido-Choroidal Forms, with Loss of Both Eyes. C. H. Brobst, Peoria.
48 *Climatic Treatment of Tuberculosis, with Special Reference to Colorado. C. L. Wheaton, Chicago.
49 *Insanity Following Skull Injuries. E. Mammen, Bloomington.
50 Malignancy in Uterine Myomata. H. F. Lewis, Chicago.
51 Course and So-called Complications of Cholecystitis. B. Holmes, Chicago.

45. See abstract in THE JOURNAL, June 3, 1905, page 1801.

46. **Surgical Treatment of Bleeding Gastric Ulcer.**—Beck formulates the indications for a surgical procedure in hemorrhage as follows: A first hemorrhage in a previously healthy individual, while in most cases healing by medical treatment, requires careful watching; if prolonged and if the pulse indicates an arterial hemorrhage, it must be treated surgically. A first hemorrhage in a previously suffering patient, if profuse or prolonged, ought to be treated surgically at once or shortly after the patient recuperates, as the ulcer will keep on bleeding and certainly will invite complications. A continuous slight bleeding with marked influence on the patient, such as anemia, weakness etc., is a clear indication for surgical interference. The operation of choice ought to be excision with or without gastroplasty.

48. Id. May 27, 1905, page 1704.

49. Id. June 3, 1905, page 1801.

Therapeutic Gazette, Detroit, Mich.

October.

52 Treatment of Acute Urethritis of Gonorrheal Origin. H. M. Christian, Philadelphia.

53 *Permanency of Results in Pulmonary Tuberculosis—The After-history of 27 Cases Treated by the Combined Hygienic, Dietetic, Open-Air and Tuberculin Treatment. F. M. Pottenger.
54 Artificial Leucocytosis as a Therapeutic Measure. H. A. Becker, St. Charles, Idaho.
55 After-Treatment of Operative Cases. E. Martin, Philadelphia.

53. Permanency of Results in Tuberculosis.—Pottenger reports the after history of 27 patients with pulmonary tuberculosis, treated in office practice. No single remedy or measure was relied on, but everything was used that could be of any benefit to the patient. Twenty-five patients improved. Twenty patients are apparently cured and are now enjoying good health. In not one instance has there been a relapse although six years have elapsed since the first patient was discharged, and 26 months since the last patient was discharged. Seven patients are classed as improved. Of these, all are dead but one. Two of these cases were hopeless from the start, as the patients were suffering from acute tuberculosis, and in another case, which was never hopeful, the patient developed acute tuberculosis within six months after stopping treatment. The other three cases followed the natural course of chronic tuberculosis. Pottenger believes that it is just as possible to obtain a permanent cure in tuberculosis as in any other disease.

Journal Missouri State Medical Association, St. Louis.

October.

56 Clinical Study of Diagnosis of Urinary Calculus. B. Lewis, St. Louis.
57 Hypertrophy of the Heart Without Disease of the Valves. J. R. Lemen, St. Louis.
58 Specimens of Pelvic Surgery, with Critical Remarks. A. H. Meisenbach, St. Louis.
59 Practical, Novel and Rational Treatment of Gaping Wounds, Following Extensive Septic Infection. J. F. Menestrina, St. Louis.

Louisville Monthly Journal.

October.

60 Yellow Fever Facts. H. M. Folkes, Biloxi, Miss.
61 Moral Medical Triumvirate. W. F. Sterman, Winterset, Iowa.

Oklahoma Medical News- Journal.

October.

62 Cyst of the Body of the Uterus. F. H. Clark, El Reno, Okla.
63 Treatment of Burns. F. L. Watson, Alderson, I. T.
64 Simple Method of Making Microscopic Examinations of the Blood. W. G. Ramsay, South McAlester, I. T.

Vermont Medical Monthly, Burlington.

September 25.

66 Deforming Chronic Rheumatic Arthritis. C. W. Strobell, Rutland.
67 Diagnosis of Pneumonia. G. Rustedt, Rutland.
68 Loose Bodies in the Knee-Joint. J. B. Wheeler, Burlington.
69 Study of Enzyme Action in Its Relation to Human Metabolism and the Development of Tuberculosis. H. E. Lewis, Burlington.

Columbus Medical Journal.

October.

70 Hints for the Early Management of Mental Troubles. H. C. Rutter, Columbus.
71 Compound Fractures. M. F. Hussey, Sidney.
72 The Trunk of the Sympathetic Nerve. B. Robinson, Chicago.
73 Inflammation. J. U. Barnhill, Columbus.

Journal New Mexico Medical Association, Albuquerque.

September 15.

74 Hemorrhagic Typhoid—*Typhoid Parotitis—Recovery.* B. R. Black, Las Vegas.
75 Gastroenteric Intoxication in the New-born. J. R. Gilbert.
76 Treatment of Peritonitis. G. C. Bryan, Alamogordo, N. M.

Chicago Medical Recorder.

October.

77 *Actinomycosis. A. D. Bevan, Chicago.
78 Internal Hemorrhoids. C. J. Drueck, Chicago.
79 Two Cases of Suprapubic Prostatectomy. F. A. Leusman, Chicago.
80 Puerperal Fever as Seen by the General Practitioner. F. L. Glenn, Chicago.
81 The Prescription. W. F. Waugh, Chicago.

77. See abstract in THE JOURNAL, Jan. 28, 1905, page 317.

Journal Kansas Medical Society, Lawrence.

October.

82 Medical Ethics from One View Point. M. H. Hart, Macksville.
83 Notes on General Anesthesia. F. L. Abbey, Newton.
84 Therapeutic Action of Chemic Salts. (Continued). B. D. Eastman, Topeka.
85 Case of Gonorrhea with Complications. G. R. White, Milan.

Southern Medicine and Surgery, Chattanooga, Tenn.

October.

86 Medicolegal Aspects of Insanity. J. T. Searcy, Tuscaloosa, Ala.
87 Appendectomy in Pus Cases. J. A. Gaines, Nashville.
88 Diagnosis of Pregnancy at Term. G. Baughman, Richmond, Va.
89 Stricture Following Gonorrhea. R. C. Bryan, Richmond.

Kentucky Medical Journal, Louisville.

October.

90 Our Prostatics—What Advice and Treatment Shall We Give Them. H. H. Koehler, Louisville.
91 Strangulated Hernia. D. C. Donan, Three Springs, Ky.
92 Summer Diarrhea in Infants—Prophylaxis and Treatment. L. B. Wilkerson, Russellville.
93 Cholera Morbus. R. F. Duncan, Tompkinsville.
94 Ectopic Gestation. C. G. Daugherty, Paris.

Brooklyn Medical Journal.

October.

95 Pharmacopœia of the United States of America—Eighth Decennial Revision. E. H. Bartley.
96 Cholelithiasis. J. M. Van Cott.
97 Uncertain Course of Bullets in Gunshot Wounds. C. S. Barber.
98 Relief of Hay Fever by Radical Intranasal Operation. A. C. Howe.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

October 28.

1 Lecture on Grave's Disease. H. Mackenzie.
2 *Case of Addison's Disease. B. Bramwell.
3 *Tumor of the Spinal Cord Removed by Operation. B. J. Ward.
4 *Relationship of Heredity to Disease. F. W. Mott.
5 Ricin and Abrin Experiments. G. A. Watson, G. A. Reid, E. Schuster, A. W. Gilchrist and others.
6 Correlation of Sex and Disease. C. J. Bond.
7 Etiology and Pathology of Beri-beri. H. Wright, C. Hose, F. W. Mott, and others.
8 Case of Microgyria. W. P. May.
9 *Certain Features Exhibited by Cells in Their Relation to Cancer. F. W. F. Ross.
10 *Observations on the Feces in Biliary Obstruction and Pancreatic Disease. P. J. Cammidge.
11 *Rapid and Simple Process for the Estimation of Uric Acid. A. F. Dimmock and F. W. Branson.
12 Diphtheroid Organisms in the Throats of the Insane. J. W. H. Eyre and J. F. Flashman.
13 *Caffein Enrichment Method. C. Hirst.
14 Mitoses in the Cells of the Graafian Follicle. R. Cattley and A. S. Grünbaum.
15 *Influence of Certain Micro-organisms on the Cellular Constituents of the Red Bone Marrow. C. P. Jones.
16 Method of Demonstrating Individual Metabolism in the In[illegible] onary Expiration. A. W. Gilchrist.
17 [illegible] Ventriculi; Its Variations in Malig[illegible] nell and F. Hinds.
18 Red Degeneration of a Fibromyoma of Uterus. F. G. Bushnell.

2. Addison's Disease.—Bramwell reports a case of Addison's disease which improved remarkably under the open-air treatment and the simultaneous administration of suprarenal extract. The patient, a man, aged 36, had been ill for eighteen months. He applied for treatment early in November, the weather at the time being cold, wet and stormy. The man was placed on the balcony outside the hospital ward and stood the exposure well. The suprarenal extract was administered in 5-grain doses three times daily. All the symptoms disappeared rapidly and the patient was discharged as cured five and one-half months after the beginning of the treatment. Death occurred suddenly two years afterward, due to asthenia and failure of the heart action, probably from autointoxication. A postmortem examination was not held.

3. Tumor of the Spinal Cord.—Following a fall, Ward's patient developed a marked spastic paraplegia, with no voluntary control of any muscle in either lower limb. A diagnosis was made of the tumor and an operation was advised. The spines and laminæ of the ninth and tenth dorsal vertebræ were separated with saw and bone forceps, and as soon as they were removed the dura mater bulged through the opening. It looked like a cyst filled with transparent fluid, through which the posterior surface of the cord could be dimly seen. On palpating the cord a tumor could be felt almost entirely filling the canal. The dura mater was incised, and immediately fluid under great pressure bulged out, and the posterior roots protruded through the opening thus made; when the first gush of fluid had lessened fluid was also seen to be spurting out in a tiny stream from between the strands of the posterior roots: no tumor was to be seen, but it could be felt as a distinctly localized growth about the size of a walnut, quite hard, covered in by the posterior roots which were stretched over it, and situated somewhat more on the right side than the left, the cord itself was not to be seen, being completely covered in by the roots. The strands of these roots were carefully separated with a director and the tumor exposed; it was then shelled out quite easily by curving the director and passing it round the tumor in all directions, care being taken to keep it pressed against the tumor so that no damage should be done to the cord. Free oozing followed and immediately filled the cavity from which the growth had been removed, so that the cord itself could not be seen, and as the patient was rather collapsed, no time was wasted in examining the cavity, but owing to the size of the tumor the cord could not have been much thicker than a piece of ribbon. The dura mater was closed by a continuous fine catgut suture, and the wound closed except for a drainage tube. The wound healed by first intention, but there was a discharge of cerebrospinal fluid from the drainage tube hole for three weeks afterward. At first this was very profuse, soaking the dressings through in a few hours, but gradually lessened. Except for the relief of distressing pain in the back, the patient's condition remained practically the same until his death, twenty months later, from extensive bedsores. The tumor was a fibrosarcoma weighing 75 gr. and it had evidently grown from the posterior root sheaths.

4. **Heredity and Disease.**—Mott discusses at length the relationship of heredity to disease, and cites a number of well-known instances, such as Sanger Brown's family of hereditary ataxia, hereditary hemophilia and hereditary Daltonism. A study of statistics relating to the birth and death rate of tabetic and "tabo-paralytic" patients showed the following: Twenty-two married women suffering with tabes or tabo-paralysis had 38 children. Ten are still alive; 10 died in infancy or later; 18 were born dead. These women had 31 miscarriages. Of 54 married men, 151 children are living; 75 died in infancy or later, and 52 were born dead or were miscarriages. Mott says that there is no lack of fertility or fecundity on the part of the male parasyphilitics, but the death rate of offspring is higher than the normal average. The female parasyphilitics, however, show a very high death rate, lack of fertility and sterility. Over 30 per cent. are absolutely sterile and never conceive. In 32 pregnancies in which the father suffered from lead poisoning, the mother being free from that condition, 12 resulted in the death of the infants before term. Twenty children were born alive, but all except 2 died before the fourth year of life. This study shows that not only can lead produce abortions and miscarriages in females, but that male workers in lead, suffering with lead poisoning, have devitalized offspring which either die *in utero* or survive only a short time after birth. As to alcohol, Mott says that it is assumed that alcoholism is a potent factor in the production of mental and physical degeneracy of the offspring, but there are no certain data to show whether the transmission to the offspring is the inherent defect of control, vicious temperament, or the unbalanced mind which led to the drunkenness of the parent or parents, or a defect induced by the poison. Probably there is a transmitted mental defect increased by the poison, fixed and made permanent by the force of imitation. Drunkenness in several generations of the same family may be the result of several factors, and it goes on until regression to the normal by conjugation with a healthy stock occurs, or terminates by degeneration and elimination of the stock. Mott is strongly of the opinion that alcohol is a poison to all neuropathic stocks. Tuberculosis and degeneracy, nervous and mental diseases, and hereditary tendency to suicide are also discussed.

9. **Relation of Cells to Cancer.**—Ross believes that the genesis of cancer and of all malignant growths appears to be a question of alteration of cell polarity, and, therefore, work on cancer research should consider cell polarity in all its bearings.

10. **Feces in Diagnosis.**—Cammidge suggests that a chemical examination of the feces may often be of assistance in arriving at a correct diagnosis in cases of jaundice or suspected pancreatic disease. When the analysis is carefully performed by a competent and experienced observer, the results, considered in conjunction with the clinical symptoms, are of inestimable value.

11. **Rapid Estimation of Uric Acid.**—The method devised by Dimmock and Branson consists in taking 100 c.c. of urine and adding to it 1 gram of lithium carbonate (L_2CO_3) after boiling in a conical flask (Erlenmeyer) of about 100 c.c. capacity for three minutes, the liquid is filtered while hot to remove the precipitated earthy phosphate, etc., which are washed with a little distilled water until the filtrate measures exactly 100 c.c. To 50 c.c. of the filtrate, which contains uric acid as lithium urate, 5 grams of ammonium chlorid are added, shaking the liquid until dissolved. After three minutes the contents of the flask are warmed to 120 F., so as to secure a uniform aggregation of the precipitated ammonium urate. The whole is now poured into a tube graduated in parts per thousand of uric acid, and deposition allowed to take place, the reading being taken after four hours have elapsed.

13. **Caffein Enrichment Method.**—Birt found that 0.5 per cent. caffein in 1 per cent. peptone water does not always restrain the development of the *Bacillus coli communis;* that 0.5 per cent. caffein in 1 per cent. peptone water inhibited the growth of 26 out of 31 races of *Bacillus typhi abdominalis* examined; that 0.5 per cent. caffein in 1 per cent. peptone water completely arrested the development of 18 varieties of dysentery bacillus; that caffeinated media are of service in isolating streptococci and staphylococci; that negative results with caffeinated media can not be relied on to exclude the presence of *Bacillus typhi abdominalis* in water or dejecta.

15. **Influence of Bacteria on Bone Marrow.**—In the course of observations made by Jones with a view to determining the influence of micro-organisms on the cellular constituents of bone marrow, he found: (a) That different micro-organisms bring about different types of bone marrow; (b) that this depends not only on the virulence, but on the specificity of the organism; (c) that apparently a lymphoblastic marrow is usually associated with an increased production of erythroblasts; (d) that a leucoblastic marrow, on the contrary, is not connected with an increased erythroblast production.

The Lancet, London.

October 28.

19 *Study of Sixty Cases of White.
20 New Lines of Work in nes.
21 Problem of How Best t toriums in the Treatment anc J. E. Squire.
22 Light Treatment of Lupus Vulgaris. M. A. Morris.
23 Multiple Abscesses of the Kidney Due to Acute Ascending Infection of the Normal Urinary Tract by Bacillus Coli Communis. H. L. Barnard.
24 Intravitreous Hemorrhages. L. Paton and W. E. Paramore.
25 *Use of Plaster-of-Paris Splints in the Treatment of Fractures of the Leg. G. Wilkinson.
26 Dementia Due to Huntington's Chorea. G. E. Peachell.

19. **Membranous Colitis.**—White reports the history of 60 cases observed by him. Fifty-one patients were women and 9 were men. Forty-nine of these cases occurred between the ages of 20 and 50, the fourth decade claiming the largest number, 22. The youngest patient was under 10 years and the oldest over 70. Eight of these cases were fatal. In 16 cases complete recovery did not take place, although they were not fatal; 6 patients were much improved, and 21 made complete recovery. White lays great stress on the association of membranous colitis with disorders of the female generative organs. In about 41 per cent. of his female patients such an association existed. White says that by far the most important part of the treatment is to keep the large bowel empty. The simplest way to do this is by aperients and in many cases castor oil by the mouth will cure the patient. The best time to give this is the early morning as soon as the patient wakes; then the bowels are usually comfortably opened after breakfast. Many people wake an hour or two before they get up, so the oil should be taken then. Between half an ounce and an ounce is usually required. If the disease has lasted some time many weeks, even up to twelve or sixteen, may be needed before improvement is observed; the treatmnt should never be given up until a long trial has been allowed to it, and in all cases it should be continued for some months after apparent recovery. A minority are so nauseated by castor oil, however given, that they can not take it; in such cases sulphate of magnesium should be tried instead, or if this be found unsuit-

able calomel should be given over night. Should these methods fail the large intestine should be kept empty by washing out with plain water at a temperature of 100 F., a pint or more being used at a time. Operation should not be resorted to except in desperate cases.

25. **Plaster-of-Paris Splints.**—In order to overcome the objections made to plaster casts applied in the treatment of fractures, Wilkinson uses a form of plaster splint which he believes fulfills every requirement. Gauze such as is used for making gauze bandages is employed. The splints consist of from eight to twelve folds of this gauze, between the layers of which dry plaster is well rubbed in. Before applying they are immersed in warm water, squeezed out, and then more dry plaster is rubbed into their inner surfaces. No plaster cream should be employed. If the plaster is well baked, splints made in this way set very quickly and firmly and are very durable. The method of applying the plaster splints is as follows: Supposing the case to be one of fracture of one or both bones of the leg in the lower third, the plaster splints need only be carried as high as the knee. A pattern of the posterior splint is obtained by laying the sound limb on a sheet of paper and cutting round it with scissors. The splint extends from the root of the toes, under the heel, and up the back of the leg to just below the knee. It should be wide enough to embrace about two-thirds of the circumference of the limb. A good width should be allowed at the ankle to accommodate the projection of the heel. The pattern must be turned over so as to reverse the sides in cutting out the splint for the fractured limb. From ten to twelve folds of ordinary gauze bandage material should be laid out in a length equal to, and rather wider than, the pattern and cut out to form the posterior splint. This should be laid on a considerably wider piece of gauze and the whole thickness stitched together down the middle line. Dry plaster should be rubbed in plentifully between the layers of the gauze. The extra width of the outside layer of gauze should be split into tails on either side of the splint and the tails rolled up so that they may not become "taffled." The posterior splint should then be rolled up from either end on rollers. Two pieces of broomstick answer the purpose. The anterior splint is simply a strip, three to four inches wide, long enough to reach from the root of the toes to the knee. From eight to ten folds of gauze suffice and the ends should be secured by stitching them together. Plaster is rubbed in as in the case of the posterior splint, and the splint is rolled up on a piece of broomstick. The leg should then be bandaged evenly with a single thickness of flannel, a pad of wool being placed on either side above the heel, this being a point on which the splint is likely to cause pressure. The knee should be bent to a right angle and the leg laid on a support. Both anterior and posterior splints on their rollers are then placed in warm water for a few minutes to moisten the plaster. The surgeon then makes traction from the heel and foot. Counter traction is obtained by passing a clove hitch round the upper part of the thigh and tying to the head of the bed. Flexing the knee to a right angle eliminates one of the chief obstacles to reduction of the fragments by relaxing the gastrocnemius muscle. If the foot is kept at right angles to the leg and the inner side of the great toe in a line with the internal malleolus and the inner side of the patella the fragments will come into correct position on making traction. The anterior splint is now unrolled and laid along the front of the leg and foot. The posterior splint is removed from the water and well squeezed out. It is then unrolled and laid under the limb. Some additional plaster may be rubbed into its upper surface. While the surgeon keeps up traction and maintains the foot in the correct position an assistant brings the posterior splint round the under surface of the leg and foot and fixes it in position by tying the tails over the anterior splint. It is better to avoid tying the knots directly over the sharp anterior margin of the shin, where they may cause undue pressure. Traction with the foot in the correct position must be kept up until the plaster is set sufficiently hard to prevent displacement of the fragments; three minutes generally suffice. The leg is left for about half an hour lying flexed on the box with a support, such as a thin book, under the heel and hot-water bottles or bricks on either side to hasten the drying of the plaster. After about twelve hours the plaster will be perfectly hard and the patient may then be allowed up on crutches. Unless there is any special reason for cutting up the case it is usually left untouched for about three weeks, when a fair amount of union may be expected to have taken place. It is then cut up with a pair of scissors along the interval between the two splints and subsequently the limb should be removed from the case about twice a week for passive movements of the ankle. After replacing it the splints should be bandaged firmly with a calico roller. If the fracture is above the lower third of the leg it will be necessary to fix the knee joint. The splints may be put on in the same way, except that the knee will have to be in the extended position and the splints carried as high as the middle of the thigh. The advantages claimed for this form of plaster cast are the following: 1. It is applicable to all cases of fracture of the leg, with the exception of certain cases of compound fracture. 2. Its method of application is simple. 3. It is rigid and durable. 4. It can readily be cut up without disturbing the limb, and can be reapplied without loss of rigidity. 5. It is put on with the limb in the most favorable position for reduction of the displacement—i. e., with the knee flexed and the gastrocnemius relaxed. 6. The position of the leg is not shifted and traction on the axis of the limb is kept up during the whole time of application of the splints. Consequently there is a fair certainty of the fragments being fixed in good position.

Semaine Médicale, Paris.

27 (XXV, No. 42, October 18.) *The Struggle Against Tuberculosis, According to the Labors of the Paris Congress.—La lutte contre la tuberculose. L. Cheinisse.
28 (No. 43.) Esophagoscopie et trachéobronchoscopie. J. Garel.

27. **Present Status of Campaign Against Tuberculosis.**—Cheinisse remarks that the first enthusiasm for the sanatorium as the sole means of salvation from tuberculosis has subsided. The recent international congress showed this declining tendency in a marked degree. The sanatorium for the well-to-do person, who can modify his mode of life afterward so as to maintain the benefit derived, is still the great benefit claimed at first. Members of the working classes, however, return from the public sanatorium to their old poverty-stricken environment. Their zeal and conviction will gradually be modified, and they will refrain from using their pocket cuspidore for fear of the prejudices of proprietors and fellow-workmen, as it stamps them as dangerous. The rôle of the sanatorium in prophylaxis is thus illusory; its therapeutic rôle, evidenced by the restoration of the working capacity, is more than dubious, as it is subordinate to the natural progress of the disease and to the occupation of the individual. On the other hand, the expense of the public sanatorium as conducted in Europe is out of all proportion to its purely palliative effect among the laboring classes. It should be reserved for the incipient cases, and should be regarded merely as the auxiliary to certain more general hygienic measures. Cheinisse cites Beco to the effect that the sanatorium has been too long regarded as the pivot of the antituberculosis campaign, when in reality it is only a secondary element. The German advocates of the sanatorium confessed that about 7 out of every 10 applicants have to be rejected. The tuberculosis dispensaries are more humanitarian than sociologic in their aims, and Calmette calculates that in the one at Lille it costs about $14,500 dollars a year to care for 100 families, exclusive of expenses of installation. Experience has also shown that, besides the true scientific and useful dispensaries, pseudo-dispensaries spring up for advertising purposes, which, under the guise of benevolence, are in reality but centers of competing interests to advertise the physician in charge and his assistants as specialists, and to advertise politicians connected with the inception and promotion of the dispensary. These various interests obscure the real work of the dispensary, and absorb the attention which should be devoted to the patients, so that the latter find themselves at the mercy of regrettable practices where seances of electrization or ozonation or exploitation of pharmaceutic specialties substitute hygienic regulations. The congress adopted a resolution to the effect that the sanatorium and the dispensary are neither exclusive nor predominant in the campaign against tuberculosis, but that the prob-

lem of healthy homes will always dominate its prophylaxis. Courtois-Suffit preached that the economic factor is the main one in the campaign against tuberculosis. "The conditions of life of the working classes must be changed. Their starvation wages must be raised by modifying the conditions actually existing between capital and labor." Cheinisse concludes with the remark that until this has been realized the economic conditions of the working classes will oppose an inflexible veto to the extermination of tuberculosis. "However," he adds, "the interests of the mutual benefit societies, the sickness insurance societies on the mutual plan and of similar organizations would be promoted by reducing the morbidity from tuberculosis, and they may prove a powerful aid in the campaign when they once awake to this fact." Another innovation which promises much is the organization of charitable societies whose aim is to remove healthy children from tuberculous environments and place them in healthy homes in the country or elsewhere. France takes the lead of all countries in its care of weakly children, sending those affected with tuberculosis to seaside health resorts and sanatoriums. It again leads the way in the recent organization of the Society for the Preservation of Children against Tuberculosis, which does not wait for the children to become tuberculous, but removes them from the infectious surroundings at once if it proves impossible to improve the home environment.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

29 (XXXI, No. 39, Sept. 28.) Retrogression of Hemianopsia *After Paralytic* Attacks.—Ueber den Gang der Rückbildung hemianopischer Störungen nach paralytischen Anfällen. A. Pick.
30 Zur Kenntnis Pneumococcensepsis als Sekundärinfektion. A. Vlach.
31 *Weitere Beiträge zur Fremdkörperentfernung mittels der Oesophagoskopie (removal of foreign bodies). v. Hacker.
32 *Ueber ischiadische Skoliose in Theorie und Praxis. A. Lorenz.
33 *Ueber operative und nicht operative [illegible] entzündlicher insbesondere eitriger [illegible] (suppurative affections of adnexa). C[illegible]
34 Zur osteoplastischen Resektion [illegible] genhohlenwand (of external wall of o[illegible]. [illegible] Czermak.
35 Zur Diagnose [illegible] Kieferhöhle (neoplasms of maxillary [illegible]
36 *Ueber die [illegible] der otogenen Meningitis. G. Alexa[illegible]
37 *Zum *Problem der Angioneurosen*-Behandlung. K. Kreibich.
38 Diätetik des vorgeschrittenen Kindesalters (for older infants). Monti.
39 Nothnagel's Bemerkungen ueber seine stenokardischen Anfälle (Nothnagel's last notes. See news columns, page 1179).

31. Removal of Foreign Bodies by Aid of Esophagoscopy.—Since 1887 von Hacker has been urging the necessity for direct inspection, preliminary to extraction, of a foreign body in the esophagus. He reported 27 cases in 1901 and now reports 12 more, in all of which extraction of the foreign body *proceeded smoothly* after its shape and location had been determined with the esophagoscope. He thinks that the surgeon should practice esophagoscopy as a routine procedure, just as cystoscopy has been adopted. In his experience, pieces of bones were found in 8 cases, false teeth in 4, and fruit stones in 2. In 17 cases in which there was a cancer or stricture, the foreign body proved to be a chunk of meat in 8, and a plum stone in 6, a cherry stone in 2 and a marble in 1. In 3 cases he was able to remove a plum stone with forceps from above, controlled by esophagoscopy. Local anesthesia with 20 per cent. cocain has always proved sufficient for adults, but for children he generally prefers chloroform anesthesia.

32. Sciatic Scoliosis.—Lorenz shows by several diagrams that sciatic scoliosis is the result of instinctive reflex contraction of the muscles: It protects the lumbo-sacral nerves against mechanical, painful traction, and no attempt should be made to correct this *scoliosis* while the affection is in its painful stage. On the contrary, the trunk should be immobilized in the position which the patient finds is least painful. Any other mode of fixation increases the painfulness and the cast has to be taken off.

33. Indications for Operative or Non-operative Treatment of Affections of Adnexa.—The statistics of Keitler and Peham show that in one-sixth of their cases of suppurative affections of the adnexa treated by conservative measures the patients regained complete functional capacity, as evidenced by pregnancy later. This surpasses the results attained by operative measures. When operating in cases of pyosalpinx, von Franqué now makes a practice of suturing the wall of the abscess to the wall of the vagina, as also in cases of suppurating hematocele. This insures constant drainage; an ordinary drain is liable to become displaced or to be removed by the patient, as occurred in some instances which he cites. As a rule, in gonorrheal or puerperal pyosalpinx the patients have more or less temperature, but it is reduced to normal in one or more weeks by mere rest in bed and application of the ice bag. The spontaneous and induced painfulness of the tumor in the adnexa subsides more slowly, while the tumor gradually shrinks in size. Several days to a week after the temperature has been reduced to normal, he commences hot irrigations of the vagina, followed by ichthyol-glycerin tamponing. This is supplemented by alcohol compresses or Priessnitz packs to the abdomen. Superheated air can also be applied locally to good effect in so far as the pains are concerned, although his experience has not shown any decided superiority of the superheated air in gynecology over other methods of treatment. His patients were kept reclining until the tumors had grown smaller and were no longer painful, which occurred on an average in from four to six weeks. Then baths were given, especially Franzensbad brine baths, and this course of brine baths was repeated a year afterward. Patients able to be treated according to this plan seldom require operative measures for a gonorrheal or puerperal pyosalpinx. The brine baths must not be commenced until after the temperature has been normal for from six to eight weeks, and they should be suspended at the least rise. He warns, further, against massage. It can not do much good, he says, and is liable to do great harm, mobilizing the germs and spreading them into hitherto sound regions, while cautious tamponing, rinsing and baths leave them undisturbed and enclosed in the more or less quiescent focus. Operative intervention is indicated on suspicion of cancer and when symptoms indicate torsion; also when the symptoms suggest that a tuberculous process in the adnexa is the primary or principal localization of the affection. Von Franqué has had 11 out of 13 patients who have been in good health for from eleven months to ten years after a radical operation for tuberculosis of the adnexa. In other patients, he was able artificially to wall off the focus from the abdominal cavity, even when there was already a communication into the rectum. Infection from the field of operation occurred in only 1 out of the 20 tuberculous patients on whom he has operated, and possibly it might have been prevented by more ample drainage in this instance. A simple hydrosalpinx can be evacuated if it causes trouble.

36. Surgical Treatment of Otogenic Meningitis.—Alexander describes the technic at Politzer's clinic. It consists in immediate operation on the ear and removal of the entire disease focus, then exposure of the dura, incision and drainage of the intradural space, suction and aspiration of the fluid through the opening thus made, and lumbar puncture. The virulence of the micro-organisms is an important factor in the results of treatment, and this should be determined at once, preferably by inoculation of animals. This was scarcely attempted in the 10 cases treated by operative intervention on record. Five were essentially improved. The indications for operation require the differentiation of suppurative from serous meningitis, and for this reason lumbar puncture is imperative. Repeated lumbar puncture for therapeutic purposes may be advisable in meningitic affections not originating in the ear, or when the focus is not accessible, but in otogenic meningitis local surgical intervention and local aspiration of fluid from the intracranial regions lying near the ear are preferable. In case of suppurative meningitis, the dura should be opened wider, with an incision from 1.5 to 5 cm. long. Counteropenings may be useful to promote ample drainage. Politzer made a counteropening in the posterior cranial fossa, behind the sinus, in 2 cases with good results. In cases of far advanced otogenic suppurative meningitis, it might be advisable to expose the brain and to remove the outer diseased layer in case of existing encephalitis. Manasse has recently recorded a case of serous meningitis with superficial encephalitis, which suggests the possibility of removing the softened diseased membranes and the adjacent layers of the cortex in such cases, as also in the early stage of the suppurative form. Experience has fully demonstrated that exploratory opening of the cranial fossa in connection with the operation on the ear is a less dangerous procedure than temporization.

37. **Causal Treatment of Cutaneous Affections.**—Kreibich believes that a certain number of cutaneous affections are sympathetic reflex phenomena. The stimulus is not exerted on the vasomotors directly, but indirectly, by sensory stimuli, centrally transmitted. The pathologic intensity of the effect is due either to the intensive sensory irritation, as, for instance, in the affection of the ganglion in herpes zoster, or else to the abnormally increased excitability of the vasomotors. This pathologic excitability which causes the vasomotors to react to sensory stimuli with a pathologic response can best be explained by assuming a lack of stability on the part of the dominating vasomotor center. He is convinced that this is the cause of gangrene of the skin, of urticaria, prurigo, glossy skin, decubitus, etc., while Raynaud's disease is due to abnormal excitability of the vasoconstricting instead of the vasodilating center. Local measures are unable to influence such a vasomotor phenomenon. It must be attacked at the source, by preventing the afferent sensory irritation and by reducing the central reflex excitability. For the latter, the most effectual weapon at our command is arsenic. It acts on the central nervous system, as is shown by its efficacy in chorea, and by the fact that too large doses induce typical reflex phenomena, such as arsenic zoster and urticarial, painful erythema. When an affection with itching follows certain lines or appears in symmetrical regions, its origin in the central, sensory tracts becomes apparent, and arsenic is the remedy *par excellence* for the condition. He relates experiences which demonstrate beyond question that this drug is superior to other remedies in reducing morbidly exaggerated reflex excitability. It has proved exceptionally successful in all long-persisting, urticarial, urticaria-erythematous or purely pruriginous conditions. Inadequate or unsystematic dosage is generally responsible for the failures. He gives it in the form of Fowler's solution and aqua menthæ, equal parts of each. Five drops are taken morning and evening, then ten drops morning and evening. He keeps the patient on this dose until its effect is apparent. If stomach symptoms develop, he continues the arsenic in the form of subcutaneous injections of sodium arsenate. When convenient, he combines the subcutaneous injections of .02 gm. of the sodium arsenate every second day with five drops of the above mixture morning and evening.

Münchener med. Wochenschrift, Munich.

40 (LII, No. 39, September 26.) *Ueber Spirochæte pallida. G. Sobernheim and E. Tomasczewski. Id. K. Herxheimer.
41 Die Wanderungsfähigkeit der Lymphozyten (migrating faculty). H. Schridde.
42 *Veränderungen im Granulationsgewebe fistulöser fungöser Herde durch Hyperämisierung mittelst Saugapparate (action of congestive hyperemia). A. Hofmann.
43 Ueber menschen-pathogene Streptokokken. E. Fraenkel.
44 *Der Wert der einzelnen klinischen Symptome des Typhus abdominalis für die Diagnose. G. Treupel.
45 *[illegible] ösen Pneumonie. Lindenstein.
46 [illegible] Gebele.
47 *[illegible] bei Sehnenscheidenphlegmonen (congestive hyperemia for phlegmons in tendon sheaths). W. Lossen.
48 *Eine seltene Komplikation der diagnostischen Probe Exzision. v. R. Steinbuchel.
49 *[illegible] stro-intestinale Auto-intoxika- [illegible] royer.
50 [illegible] v. Zeissl.
51 [illegible] auf dem Gebiete der Kinder- [illegible] of milk for infants). Backhaus.
52 Eine einfache Methode der Hauttemperaturmessung (temperature of skin). G. Gaertner.
53 Der Arzt als Begutachter Unfallverletzter (medical certificates after accidents). Vulpius.

40. **Spirochetes in Syphilis.**—Sobernheim remarks that the findings of spirochetes coincide with the clinical experience in regard *to the transmission of syphilis. He found them in 50* out of 58 cases of certain syphilis, all the positive cases being those with primary or secondary lesions, while the 8 negative cases were those with tertiary lesions. In 34 control cases of various affections, the findings were invariably negative. Herxheimer states that perfected staining technic has resulted in the discovery of certain bodies in or near the spirochetes which he regards as confirming their protozoan nature.

42. **Changes in Granulation Tissue After Treatment by Suction Congestive Hyperemia.**—Hofmann gives illustrations of the microscopic changes in the tissue after it had been treated with Bier's suction apparatus to induce congestive hyperemia. He was surprised to find that the leucocytes had nearly vanished *from the region, actually washed away* by the congestion and hyperemia induced. The benefit of the procedure must lie in the fact that the bacteria and their poisons are washed away also, while the influx of fresh blood to the parts brings renewed life and vigor. The histologic picture shows that the vessels become much enlarged under the suction, while the composition of the blood is comparatively normal, showing no preponderance of leucocytes. The parts have merely been thoroughly rinsed and drained.

44. **Signs of Typhoid Fever.**—Treupel has been diligently sifting the clinical records of 60 cases of typhoid fever recently observed. The anamnesis suggested the possibility of typhoid in only 75 per cent.; a typical temperature curve was noted in only 46 per cent.; bronchitis at the commencement of the disease in 48 per cent.; pulse slow in proportion to the temperature in 86 per cent.; tendency to euphoria or remarkably good general condition in 56 per cent.; typhoid tongue in only 16 per cent.; catarrhal sore throat in 33 out of the 60, and follicular sore throat in 1; abdominal symptoms, meteorism, tenderness, etc., in 61 per cent.; enlarged spleen in 86 per cent.; roseola in 71 per cent.; diazo reaction in 73 per cent., and the agglutination test positive in 90.6 per cent. of 53 patients, and typhoid bacilli found in the blood by the second or third day in 92.8 per cent. of 14 cases. In 3 cases, the *clinical picture was at first that of a rhinolaryngeal bronchitis*, without roseola, enlarged spleen or diazo reaction, but the positive findings of the agglutination test were confirmed by the course of the disease. In another case, a woman recovering from childbirth had chills. The uterus was normal for her condition and the persisting euphoria suggested the possibility of typhoid, which was sustained by the positive agglutination. In another case, a woman presented considerable cachexia, dullness over the apices, hectic fever and strongly positive diazo reaction. The lung affection seemed to remain stationary and no bacilli could be found in the sputa, while the diazo reaction grew more and more marked, and the fundus of the eye showed no signs indicating miliary tuberculosis. The agglutination test was very strongly positive, and typhoid bacilli were finally cultivated from a furuncle *on the leg and from the urine.* See editorial page 1575.

45. **Serum Treatment of Fibrinous Pneumonia.**—Lindenstein's experience in 4 cases has been extremely favorable.

47. **Suction Hyperemia in Treatment of Tendon Sheath Phlegmons.**—Lossen gives illustrations of the remarkable functional results attained in 3 cases of tendon-sheath phlegmons in the hand, treated by Bier's method of congestive hyperemia. Healing was prompt and the tendons did not become contracted *or necrotic, but resumed normal functioning.*

48. **Fatal Complication of Exploratory Excision.**—A woman of 40 presented atypical uterine hemorrhages and, although in apparently the best of health, the suspicion of cancer was excited by the aspect of the portio vaginalis, and an exploratory excision was made. Symptoms of septicemia developed at once and the patient died in less than a month. She had been referred to a careful surgeon for the excision, it had been done in a well-equipped operating room, and the field had not been touched by the hands nor was any other sin against asepsis committed. The exploratory excision had revealed incipient carcinoma and also several mucous follicles which had become closed at the mouth and distended by their secretion. Steinbüchel had seen such little cysts before and had had occasion to open some of them with the thermocautery on several *occasions in years past.* It was noticed during the exploratory excision that the contents of two of these Nabothian follicles had a somewhat different appearance from the others, as if pus were mixed with the mucus. *At the same time, a small vein had* been opened by the exploratory excision. The vein was sutured and the lips of the wedge-shaped excision brought together and sutured. Two sutures for a wound only *about an inch long did not* close it hermetically, but he ascribes to these sutures the evil results. If the wound had been left open and drained, the germs would have been drawn outward.

They must have been exceptionally virulent, and some must have found their way into the opened vein and thus have transformed a clean wound into an infected one. He advises, therefore, in case a retention cyst of this kind is opened in the course of an exploratory excision that it should not be sutured, but should be merely tamponed and drained. In any event, a patient should be carefully supervised after an exploratory excision.

49. **Eye Affections and Autointoxication.**—Groyer announces that the test for indican resulted strongly positive in a large number of cases of eye affections for which he could not discover any primary cause. They included cases of scleritis, keratitis, iritis, iridocyclitis, retinitis, choroiditis, neuritis, retrobulbar neuritis, cataract, opacity of the vitreous body, hemorrhages in the vitreous body, glaucoma, atrophy of the optic nerve, hemianopsia, scotoma, paralysis of the ocular muscles and functional disturbances for which no cause could be discovered. In all of these cases, he noted evidences of digestive disturbances with tenderness on pressure of the regions of the stomach, liver, gall bladder and spleen, or typical pains in the sacral region and between the shoulder blades, radiating into the shoulders and arms; or else pain on pressure of the emerging points of the lateral branches of the intercostal nerves, the cervical plexus, the supraorbital, infraorbital and mental nerves, or radiating pains in the forehead and temples and occiput, or pronounced palpitations or nervous respiratory disturbances. In all the above ocular disturbances no affection of any other organ could be detected. In all these cases, the tests for sugar and albumin in the urine always resulted negatively, while the tests for indican revealed its presence in very large amounts. As indican is an indication of putrefactive processes going on in the intestines, he assumes that its presence in these cases indicates that poisons from the intestines are circulating in the body of these patients, these intestinal toxins affecting primarily now this, now that organ of the body. Their ravages are most readily perceived in the eye, and hence the ocular disturbances were the first to attract attention.

Wiener klinische Wochenschrift, Vienna.

Last indexed page 743.

54 (XVIII, No. 28.) *Zur abdominellen Operation des Gebärmutterkrebses (uterine cancer). W. Latzko.
55 Zur Pathologie der Zungengrundtumoren (of base of tongue). Two cases. E. Glas.
56 Ueber einen Fund von Spirochæte pallida im kreisenden Blut (circulating blood). H. Raubitschek.
57 (No. 29.) Der gegenwärtige Stand der Zahnheilkunde (present status of dentistry). R. Weiser.
58 *Zur Aetiologie der Pinguecula und des Pterygiums. II. A. Sachsalber (Graz).
59 (No. 30.) Apparat für Inhalationsversuche. J. Bartel.
60 *Zur Inhalation zerstäubter bakterienhaltiger Flüssigkeit. R. Hartl and E. Herrmann.
61 *Zur Kasuistik und Therapie der Pankreas Cysten. A. Exner.
62 *Ein leicht transportabler Blutdruckmesser (blood pressure measure), S. Tauber (Vienna).
63 Die Lehre von den normalen Antisubstanzen im Lichte unserer Lipoidtheorie. L. Detre and J. Sellei.
64 Ueber die Antihämolysine des normalen Serums. M. v. Eisler.

54. **Abdominal Extirpation of Uterine Cancer.**—Latzko makes it his principle in operating on a cancer of the uterus to remove all the glands, lymphatics and vessels, with the connective and fat tissue, *in toto*. He gives an illustration of the piece removed, a long chain of glands hanging from it on each side, and describes his technic in detail. The only possible dubious feature in regard to asepsis is the cutting of the uterus out of the vagina, but this is the last step in the operation. Ten patients operated on by this technic all recovered with remarkably little suppuration. He ascribes this to the ample drainage, the lack of recesses in the connective tissue, and the avoidance of mass ligatures. This technic, he claims, demonstrates the feasibility of removing all the suspicious elements in extirpating a cancer without enhancing the gravity of the operation.

58. **Etiology of Pterygium and Pinguecula.**—Sachsalber reiterates his previous announcement in regard to pterygium and pinguecula as being the result of irritation from the presence of fine downy hairs on the inner side of the lids. He does not claim that all cases are of this origin, but that a large proportion can be traced to this source and that a cure can be effected by removal of the hairs. The hairs are generally found in the inner angle; in some cases he has found them so long that they projected 2 mm. beyond the limbus of the cornea, but they are so fine that they can seldom be seen without a magnifying glass. He describes a series of 6 cases, and states that in examination of 1,100 inmates of an insane asylum he found the hairs in all but 3 of the individuals affected with pinguecula, and in nearly all the cases of progressive pterygium. The stationary, traumatic cases, of course, do not belong to this category. His first article was summarized on page 1971 of the last volume of The Journal.

59-60. **Experiments with Inhalation of Drugs and Germs.**—Bartel describes an apparatus which supplies a very fine spray blended with compressed air for inhalation. Hartl and Herrmann report experiments with the apparatus on animals compelled to inhale a spray containing the *Bacillus prodigiosus.* It was found that the bacilli inhaled were caught on the walls of the nose and throat, while but a very small number of them reached the peripheral portions of the lungs. The experiments proved, however, that the inhaled spray from the apparatus actually found its way to the remoter parts of the air passages. The inhaled bacilli did not proliferate.

61. **Seven Cases of Pancreas Cysts.**—Exner has been collecting information in regard to the later fate of 7 patients with cysts in the pancreas who were operated on at Hochenegg's clinic. The cases have all been previously published. One of the patients was treated by total extirpation of the cyst and is in perfect health. Of the other 6 patients only 2 are still alive after ten years, and one of them has a recurring fistula. These 6 patients had been treated by suturing in the cyst. Death was due in one instance to ileus from adhesions. In a more recent case a man was kicked in the stomach region by a horse. When seen six weeks later, he had a tumor in the pancreas region, with sugar in the urine, a sign of functional disturbance in the pancreas. The tumor increased in size during the day, but the next morning it suddenly subsided, having perforated into the abdominal cavity. This did not cause any special disturbances. The tumor was probably a hematoma in the pancreas, and its rupture put an end to the functional disturbances in this organ. Four months later the tumor had recurred. This time it proved to be a cyst, and no traces of the preceding hematoma could be discovered at the operation. The cyst was drawn up and sutured to the parietal peritoneum, and not opened until five days later. Its wall was about 3 cm. thick. A small drain was inserted and the secretion gradually subsided from a quart in the first twenty-four hours to 300 c.c. in about five weeks, and then became minimal. The fistula has not healed during the five months since, and it is now proposed to remove the shrunken wall of the cyst to facilitate closure of the fistula.

62. **Portable Blood Pressure Measure.**—The little instrument consists of a manometer with a tube on each side of its base. One tube connects with a broad ring slipped over the finger, the other with a small syringe which serves to compress the air in the tubes.

Gazzetta degli Ospedali, Milan.

Last indexed page 1125.

65 (XXVI No. 103.) Sleeping Sickness.—La malattia del sonno. C. Tarchetti.
66 *Influence of Cold and Heat on Development of Cerebral Hemorrhage and on Gastrointestinal Affections.—Influenza del freddo e del caldo sullo sviluppo di certe malattie. E Leonardi.
67 Suture secondaria dei nervi. A. Dal Vesco.
68 (No. 108). *Sulla patogenesi dell' idrocele volgare. R. Cecca.
69 *Nuovo metodo per la siero-diagnosi del tifo. G. Appiani.
70 (No. 112.) *La crioscopia delle orine nelle malattie infettive. B. Mariotti.
71 *Profilassi della malaria. G. Casardi.
72 Sui canali anomali del pene. Urethra duplex. Condotti paruretrali (deformities in passages in penis). E. Aievoli.
73 Bullet Wound of Spinal Cord.—Lesione trasversa completa del midollo spinale per ferita d' arma da fuoco. I Bruschi.
74 Legatura del dotto di Wirsung (Wirsung's duct).T. Carpentieri.
75 (No. 114.) Questioni di fisiologia cerebrale. E. Tramonti.
76 (No. 115). *Sui rapporti fra la pericardite e le lesioni valvolari dell' aorta. L. Ferrio.
77 *Un nuovo pericolo dell'operazione di Talma (new danger of omentopexy). D. Maragliano.
78 *Remedying Insufficient Mammary Secretion.—Della possibilita di rimediare alla insufficienza della secrezione lattea nella donna. G. B. Burzagli.
79 Diagnosi e cura dello edema maligno e della pustola maligna. V. Torresi..

66. Influence of Cold and Heat on Certain Affections.—Leonardi, in central Italy, has been studying the records of 107 cases of cerebral hemorrhage during the last fourteen years. He found that 71 cases occurred during the three coldest months and 23 during the three hottest months, while only 15 were observed in fall and spring. This fact, in connection with others which he cites, he thinks, demonstrates that the visceral congestion during cold weather is responsible for the hemorrhages. The blood is driven away *from the periphery;* it accumulates in the right heart, with consequent enlargement of the vessels and tendency to rupture. During the summer the blood is drawn to the periphery, and the heart is *overtaxed. The brain is a peripheral organ, and consequently* the congestion in its vessels is liable to entail rupture. The extremes of the seasons thus have the same effect, but by a different mechanism. The gastrointestinal tract also suffers in the same way, the visceral congestion in winter and the anemic condition of the viscera during the summer causing disturbances. The result of each is *identical,* that is, abnormal digestive functioning, and the presence of imperfectly digested food in the alimentary tract, entailing autointoxication and consequent nervous depression.

68. Pathogenesis of Hydrocele.—Cecca has demonstrated that certain portions of the parietal peritoneum are semipermeable, that is, they allow the passage of water alone while holding back its salts. He believes that when the vaginalis has developed from the part of the parietal peritoneum exhibiting this property, a predisposition is afforded for the development of hydrocele. He describes his experiments on animals and on the cadaver and tests of the membrane taken from normal individuals. All concur in demonstrating only semi-permeability on the part of the membrane in the cases of hydrocele.

69. New Method of Serodiagnosis of Typhoid.—Appiani writes from Lucatello's laboratory at Padua to describe a technic for the serodiagnosis of typhoid by means of the precipitating action of the pulp of typhoid bacilli. He thinks that the procedure described is more reliable, more practical and simpler than the ordinary agglutination test. He first made a large amount of bouillon culture of pure and extremely virulent typhoid bacilli. On the eighth day he filtered 2 liters of the culture through a Chamberland filter, rinsing by passing sterilized and distilled water through the filter for twelve hours. The pellicle left on the filter was ground for four hours in a mortar, a few drops of distilled water being added occasionally. The result was about 20 c.c. of a turbid, milky colored fluid. This was filtered again, and the result was a clear fluid, slightly alkaline, not coagulating with heat nor throwing down a precipitate with the ordinary reagents for the albuminoids, and becoming only slightly turbid when treated with acetic acid and potassium ferrocyanate. A few cubic centimeters of serum from a typhoid patent were placed in test tubes arranged in a stand and 5 c.c. of the bacillus pulp, obtained as described above, was allowed to flow down the wall of the tube on top of the serum. No change was observed in the contents of the test tube for nearly two hours. Then the fluid began to grow turbid, until it was entirely turbid after the third hour. A clear zone then developed at the point of contact, becoming most pronounced by the seventh hour, the fluid above and below remaining turbid indefinitely. These results were observed in serum from a patient at the twelfth day of typhoid. In another at the twenty-first day, the process proceeded much more rapidly, the whole being complete in an hour and a half. Appiani is now experimenting with *the colon bacillus* by the same technic.

70. Freezing Point of Urine in Infectious Diseases.—Mariotti reviews the history and present status of cryoscopy, and adds that most of the communications on the subject have been devoted to the conditions in heart and kidney affections. In this article he gives tables with the details in regard to the urine in 8 cases of typhoid, pneumonia, malaria or tubercular meningitis. These tables demonstrate that the molecular diuresis is low in febrile infections, but it may become abnormally high during convalescence. This is probably due to the elimination of the substances retained during the course of the disease. Cryoscopy of the urine in acute infectious diseases is a better indication of the condition of the organic metabolism than of the functional capacity of the kidneys.

71. Prophylaxis of Malaria.—Casardi mentions that the present season has been an unusually wet one, and yet the prophylactic measures introduced against malaria have succeeded in keeping down the morbidity from this cause. The proportion of persons primarily affected has dropped from 38.71 per cent. to 0.3 per cent. since the houses have been screened, in one of the greatest hotbeds of malaria. In the regions where malaria is not bad, prophylactic doses of quinin are sufficient to ward off infection, but in the worst infected districts mechanical measures are indispensable. He adds that the term malaria means bad air, but that the air has been exonerated of complicity in the development of malaria except as it bears up the wings of the mosquitoes. He concludes by urging legislation to compel the screening of all houses in malarial districts.

76. Relations Between Pericarditis and Valvular Lesions of the Aorta.—Ferrio reports five cases of valvular affections superposed on pericarditis and discusses the connection between them.

77. New Danger of Omentopexy.—A robust man of 32 exhibited symptoms of cirrhosis of the liver and, as the ascites was large and annoying, omentopexy was undertaken to provide collateral circulation for the portal vein. The operation proceeded smoothly and the patient was convalescing satisfactorily when, on the third day, symptoms of collapse became apparent and he died in a few hours. The autopsy revealed laceration of one of the veins in the omentum. This accident was explained by Maragliano as the result of an effort to vomit. The stomach in the retching must have pulled on the omentum and torn one of the vessels, with resulting *hemorrhage. The attendant did not realize the seriousness of* the symptoms until too late. If the surgeon had been called at the first sign of collapse the laparotomy wound might have been opened and the ruptured vessel sutured. The case is a warning to make the fixation high up and to pull the omentum down as little as possible. Everything should be done to prevent vomiting until solid adhesions have formed; a week is long enough for this, as a rule.

78. Remedy for Defective Secretion of Milk.—Burzagli reviews the history of attempts, ancient and modern, to increase the mammary secretion, and relates the fine results he has obtained with anise. He learned that veterinarians were using anise as a reliable galactagog, and when he was consulted by two women who deplored the lack of sufficient milk for their infants, he recommended them to drink an infusion of aniseseed and to apply to the breasts four or five times a day compresses impregnated with the infusion. After five days both women were able to supply all the milk the infants needed. Each had used about seven quarts of the 25 per 1,000 infusion, taking five quarts internally. It was continued for another five days and then suspended, but the secretion of milk remained abundant. The effect is not apparent till from the *third to the fifth day.*

Books Received

Pathogenic Micro-Organisms, Including Bacteria and Protozoa. A Practical Manual for Students, Physicians and Health Officers. By W. H. Park, M.D., assisted by A. W. Williams, M.D., Second Edition, Enlarged and Revised. 165 illustrations. Cloth. Pp. 556. Price, $3.75. New York: Lea Brothers & Co., 1905.

Materia Medica and Therapeutics. An Introduction to the Rational *Treatment of Disease.* By J. M. Bruce. New and Enlarged Edition. Cloth. Pp. 632. Price, $1.75 net. Chicago: W. T. Keener, 1905.

Organotherapy or Treatment by Means of Preparations of Various Organs. By H. B. Shaw, M.D., F.R.C.P. *Illustrated.* Cloth. Pp. 256. Price, $1.75 net. Chicago: W. T. Keener, 1905.

Medical Record Visiting List or Physicians' Diary for 1906. New Revised Edition. Flexible Leather. Pp. 181. New York: William Wood & Co.

Diseases of the Stomach and Intestines. By B. Reed. Illustrated. Cloth. Pp. 1021. Price, $5.00. New York: E. B. Treat & Co., 1904.

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Original Articles

THE SECRET NOSTRUM EVIL.

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I shall make no apology for bringing this subject before this Section. Its importance to the profession of medicine and to the public justifies an exposition of the evil now. In no other country has this menace to the welfare of the people and to the best interests of scientific medicine developed as it has with us.

Probably the reason is that other countries, with one or two exceptions, protect the people against frauds in foods, medicines, etc.

Some day it is to be hoped that the Congress of the United States will enact a national pure food law which shall include the regulation of the copyrighting and exploitation of proprietary and other medicines.

Just here it will be well to say that the term "proprietary medicine" does not necessarily stamp a preparation or remedy as a nostrum. Webster says that a nostrum is "a medicine, the ingredients of which are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor; a quack medicine." Some proprietary medicines are patented, or better, the process of manufacturing an article is patented. This patent protects the discoverer, or owner, in the manufacture of the medicine or drug for a period of 17 years. These preparations are ethical, in that they are not secret, for any one for a small fee may obtain from the patent office of the government a copy of the description of the process of manufacture and the actual chemical composition of any such patented drug or remedy. The chief harm which has come to us in America from the protection by patent of the process of making a chemical or drug has been the resulting high price of the product. Many of the synthetic chemical drugs, like antipyrin, phenacetin, etc., cost ten times their worth as compared with the price of the same drugs in Germany and in other countries. As stated, however, such really patented preparations are not secret; the composition is known. Some of them are of value therapeutically. Many of them are valueless. Some of them are harmful. Most of them we could easily get on without and fare better with the older, more simple remedies. Too many "made in Germany" specifics are shoved under our noses.

Now, as to the other proprietary medicines. All the so-called "patent medicines" put on the market for the public, and many of the preparations exploited to physicians and distributed by them to the public, are not patented, but are protected by a copyright or trade mark. Technically there is no difference between the secret proprietary medicines manufactured for physicians' use and the "patent medicines" exploited to the public. Both are protected by a copyright or trade mark name. Both are protected for an indefinite time. They are mixtures, as a rule, of several ingredients.

The relation of the physician to these preparations, however, is very different. Those "patent medicines" which are advertised to the public are not considered ethical and physicians abhor them and rightly condemn their use because they are often dangerous and always irrational as remedies. On the other hand, the manufacturers of those copyrighted proprietary medicines which are exploited to physicians by extravagant claims of specific therapeutic action, use the doctor as the middle man to distribute the cure-alls to the public.

Medicines so prepared that the busy physician could easily dispense them found a certain class of doctors eager to use them. The indications for use appeared on the label or in the accompanying literature. Tonics, blood and tissue builders, emmenagogues, pain relievers, febrifuges, laxatives, calculi dissolvers, soporifics, bile promotors, heart tonics, cures for Bright's disease, etc., have appeared in countless number and some remedies offered are confidently presented as cures for not one, but a half dozen diseases or symptoms complex. Indeed, the claims of many of the promotors of this class of remedies do not differ in extravagance from the cure-all patent medicines offered directly to the public.

It has been easy to obtain testimonials of the alleged value of many of these remedies. Many even of the "faculty" have extolled them. Why, therefore, should not the less experienced physician use these "elegant," palatable, all-ready to use, with label-specifying-dose, disease-indicating remedies? Prominent physicians and the "faculty" had testimonials in the circulars sent with the samples indicating the virtues; why, therefore, use the simple proved remedies of the pharmacopeia, and especially as the latter would often necessitate the trouble of writing a real prescription.

To the rational physician most of the mixtures, even with the formulæ, are objectionable. Disease is never quite the same in different individuals, nor does the picture remain the same from day to day. The treatment must be modified to meet the varying problem of the morbid process. Rational therapy calls for simple prescriptions; but if there be an objection to mixtures with fixed and known formulæ, what must one say of mixtures of secret or semi-secret composition?

As Dr. Horatio C. Wood, Jr.[1] says:

> A much more elusive and therefore dangerous evil lurks in the class of mixtures which attempt to cloak their secrecy with a deceptive show of frankness. I think you will grant that the physician is rarely justified in the use of remedies concerning which he has no knowledge, and I maintain that the publication by a drug firm, of whose integrity the physician is absolutely ignorant, of a professed list of ingredients of some mixture is not sufficient knowledge to pardon

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] "Proprietary Therapeutics," The Journal A. M. A., June 10, 1905, p. 1836.

or to warrant the uses of that remedy. In the first place, if the published formula be correct, it is not enough to know simply the composition of a mixture, the exact quantities must also be known; there is a vast difference between the effects of 1 grain and of 100 grains of opium. Moreover, there is no means of knowing that the formula is a true one, for many of these corporations do not hesitate to pervert the truth.

Many of the promotors of these preparations claim, as chemists or as pharmacists, to be the discoverers of the wonderful remedies and the alleged unusual knowledge of chemistry or of skill in pharmacy has enabled the discoverer to develop in a mixture heretofore unknown, therapeutic qualities. Truth to tell, however, it is known that the proprietors are not always the manufacturers of the preparations they exploit and distribute. Many of the proprietary preparations are made by the large manufacturing pharmacists for the owners. Pharmaceutic skill is doubtless used in these instances, but it is the kind of skill which is for sale and is not personal.

I am informed that it is not unusual for one manufacturer of proprietary mixtures to have several so-called "companies," through which he can more easily exploit and distribute his products.

There is said to be a direct relation between the Dad Chemical Co., the Od Chemical Co., the Sultan Drug Co., the Rio Chemical Co., and the Peacock Chemical Co., or at least that they are linked together through one individual, and that Battle & Co. and the Lambert Pharmacal Co. are related to the above list. It is said, too, that the Vass Chemical Co., the Lotos Chemical Co., and the Valley Chemical Co. are one combination. Doubtless other combinations exist.

Curiosity recently prompted me to look through a number of medical journals and I can not resist the temptation to quote some of the preparations advertised in them: Aletris Cordial, Celerina, Neurilla, Respiton, Sanmetto, Cactina Pillets, Seng, Chionia, Thialion, Zarcol, Ecthol, Hagee's Cordial of Cod Liver Oil Compound, Mandragorine Tablets, Rheumagon, Ponca Compound, Ammo-phenin, Chloro-Bromon, Anasarcin, Bronchiline, Zematol, Zymoticine, Sulphogen, Labordine, Satyria, Manola, Cacodol, Eusoma, Leprosen, Sulpho-Naphtol, Pas-Avena, Neurosine, Germiletum, Bonn's Passiflora Tablets, Dioviburnia, Tongaline, Lithiated Hydrangea, Melachol, Gonoseptone, Calicolo, Saliodin, and so on *ad infinitum*. These are only a few samples of what the physicians of the United States are asked to prescribe. But there are hundreds of secret preparations that are not advertised in medical journals, whose literature and samples come to us through the mails, etc. In the majority of cases, we do not know their contents, and in many instances an analysis shows that they are simply mixtures. Often a prescription written by a physician for a particular case is purloined, put up under a trade-name and exploited as a cure-all.

As an illustration see the official announcement of the Council on Pharmacy and Chemistry regarding certain nostrums that have been exploited as synthetic chemical preparations guaranteed to cure everything. I have no doubt that the majority of the physicians who have been prescribing phenalgin, antikamnia, sal-codeia (Bell), and ammonol were shocked when they found out that, according to the analyses, they had been giving a simple mixture of acetanilid, with bicarbonate or salicylate of sodium or carbonate of ammonium, with a little caffein in some instances. What physician will be foolish enough to use these preparations, when he can get the same of his druggist for at most one-tenth the cost, but especially what physician with a particle of medical knowledge would think of giving acetanilid if he knew it, in the majority of the conditions in which, according to the advertisers, these nostrums are indicated?

What physician would prescribe Gray's glycerin tonic, if he knew that its chief ingredients are gentian, dandelion, glycerin and sherry wine?[2] Could he not write a prescription as good and feel that he was his own judge of what constitutes a tonic?

Let me quote from The Journal A. M. A.[3] This, I am told, refers to an article advertised as a cod liver oil preparation—one of the tasteless kind, that has been investigated by a subcommittee of the Council:

> We have recently had occasion to open a package of a well-known "Tasteless Cod Liver Oil" preparation. The circular which was wrapped about the bottle was replete with interesting information, especially for the patient, who obtains the remedy in the original package, as prescribed by his physician. He finds in it a list of the diseases in which the preparation does wonders—they range from the dread consumption to cystitis and hemorrhage of the kidney. Most interesting to us, however, is the statement that this compound "contains all the necessary elements of nutrition." It is too bad to disturb this beautiful vision by the report of the chemist. This shows that the product is quite free from oil or proteids; the only nutrient ingredients are alcohol, sugar, and perhaps glycerin. But the claims of the manufacturers are probably correct, for it contains carbon, hydrogen, oxygen, and probably a trace of nitrogen—so does gunpowder.
>
> Perhaps it will now be the turn of strychnin to be advertised as the ideal food. It seems superfluous to point out the moral of this tale.

It is not necessary to enter into a discussion as to whether we should ever prescribe secret proprietary medicines, for in the minds of intelligent men, even with only a smattering of medical knowledge, there can be but one answer. A physician who has a true appreciation of his responsibilities, who has even ordinary knowledge of the action of drugs, and the danger from their unintelligent use, would not think of prescribing for the sick, who have placed themselves under his care, a preparation about which he knows nothing except what the manufacturer, about whom he knows less, had told him. While there is no excuse for prescribing these medicines, too many unthinking physicians are influenced to do so by the claptrap designated "literature," which the exploiters publish about their preparations.

There is not a secret proprietary preparation that has any more value, from a pharmaceutical or therapeutic standpoint, than has the ordinary prescription of the average general practitioner. Stop advertising them and they would be forgotten, just as "patent medicines" pass away if they are not advertised. A review of 10 or 15 years will call to mind many concoctions which physicians were asked to prescribe, and which, according to the advertisements, performed wonders, but now are heard of no more. Their advertising literature stopped coming and the nostrum-prescribing doctor ceased to use them.

What is the cause of the nostrum evil? There are several.

1. Pharmacology and therapeutics are neglected relatively by many of our medical schools. Anatomy, phy-

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[2] "Each half ounce is stated to contain dilute phosphoric acid, 12 minims; gentian root, 10 grains; extract of taraxacum, 15 grains; glycerin, 80 minims; sherry wine, 80 minims; carminatives, q. s."—"Thesaurus of Proprietary Remedies," p. 148.

[3] June 17, 1905, p. 1943.

siology, pathology, diagnosis, etc., are emphasized and too often the usefulness and limitations of drugs are neglected. Too frequently drug nihilism is taught. If the student were fully taught the physiologic action of drugs, the art of prescribing, preferably single remedies or in simple combination, using if he desires the pharmacopeial preparations prepared by reliable manufacturing pharmacists, and at the same time if he were taught when not to rely on drugs, but frankly to prescribe for his patient a course of hygienic measures which alone would accomplish all that would be required, he would not be the willing dupe of the nostrum vendor, as he now is.

2. The reputable manufacturing pharmacists deserve great credit for the improvement they have made in pharmaceutical products. They have afforded us official preparations in the form of pills, tablets, syrups, tinctures, extracts, etc., which are elegant in appearance, often palatable and usually potent.

For this advance in pharmacy, a distinct credit to our country, we owe them our thanks.

Unfortunately, many of them have not stopped at this point, but have manufactured their own special mixtures which are just as objectionable as the products of the special manufacturers. They, too, have been active with their agents in visiting physicians and in distributing "literature." This encourages drug-giving in specific mixtures for special symptoms, and is wrong. With one hand they do good work, with the other much evil is done.

3. The nostrum makers at first copied the methods of the reliable manufacturing chemists, in exploiting their products, but they have gone a step further and have reached a point where one may say that they have subsidized the medical press. I know I am on dangerous ground when I make this statement, but right here is the chief cause—and the remedy. How many of our so-called medical journals are subsidized by medicine manufacturers I do not know, but all physicians know as well as I that there are many, and I do not refer to the so-called house organs. I unhesitatingly affirm that one-half of the medical journals of the country would be out of existence if it were not for the nostrum advertisements. Under the circumstances, therefore, can we expect these journals to say anything? Need we be surprised that scarcely a journal published the official report regarding the acetanilid mixtures, when the preparations hit were the best paying advertisements in the country?

What is the remedy? Publicity. The enlightenment of the profession. The truth regarding not only what the preparations contain, but who makes them. Certainly no honest manufacturer will object to this last proposition, and no honest physician will put up with less than the former.

The Council on Pharmacy and Chemistry has been created to investigate the non-official preparations, to find out the truth about them, and to publish its findings. It is not necessary to repeat here the results of the work already done by this body. All physicians have read, or may read all about it. In my opinion there has been no movement undertaken by the American Medical Association that will be so far reaching as this one to rid us of the blight of the nostrum evil. For the first time, we see the possibility of the elimination of a part, at least, of this curse to American medicine. It is the first practical solution offered of a most difficult problem.

But—and I want to emphasize what I am about to say—the movement will have the most determined opposition that money can bring. Millions are being made annually by the nostrum manufacturers, and they will not sit idly by and see this wealth-producing business done away with if they can prevent it. It won't be an open fight, for their business will not stand publicity. They will have with them those so-called medical journals which are published solely in their interests.

This movement will have the sympathy of every thinking physician of the country, but sympathy does not win battles. In this fight those who are representing us should have all the support we can give. In society meetings especially we should aid in the propaganda by helping to enlighten and to interest those of our profession who have given the matter no thought. We should support those journals that represent us, and not tolerate in our offices those that we know to be subsidized and to represent their advertisers rather than their readers.

DISCUSSION.

Dr. John H. Musser, Philadelphia, said that the cordial reception of this paper indicated that the members of the Section are in full accord with the sentiments expressed by Dr. Billings. He said that the nostrum evil as defined by Dr. Billings stultifies the profession in many ways. First it robs the physician of that practice of nice discernment in the choice of remedies, of their indications and their doses, which is essential to the full development of therapeutic skill. A physician's chief asset is experience, but what experience of the value of a remedy can be acquired when it is used in the manner in which we are instructed to administer it by the audacious five-dollar-a-day peripatetic therapeutist? Second, it prevents a cultivation of the scientific therapeutic habit, for, if premises are wrong, how can conclusions be correct? The uncertain combinations in unknown proportions, of unreliable remedies, concocted by unscrupulous grafters, can not possibly form a true figure in a proposition. Consequently, no true conclusions are drawn, and, hence, scientific habits are very soon cast to the winds. Third, it engenders irresolution as to the value of remedies. They are given in a half-hearted manner, and consequently a minimum effect is produced. A physician who prescribes with a clear knowledge of the effect of a remedy gets a surer and more immediate response. Doubt causes inaction. Fourth, it destroys scientific habits. If a scientific habit is not employed in our work, we are not truthful in our action. This lack of the worship of truth in treatment soon engenders a want of exactness in diagnosis. In consequence, a slovenly habit of practice in general will follow. Fifth, the doubt of the value of drugs and of medical measures is soon transmitted to the laity. Is it any wonder, Dr. Musser asked, that all *isms* flourish when physicians can not support their own therapeutic actions by experience or by scientific induction? The fact that every three years, perhaps less, the whole type of nostrums changes shows that experience has not been garnered. Time alone enables physicians to gather knowledge which the nimble "nostrum-mer" or drug drummer would prefer us not to have. Sixth, the nostrum evil threatens the enlightened principles of modern medicine. Our great glory is in adhering to the line of conduct of the tenets of Hippocrates and of Sydenham. "Do good or do not harm." It is not the use of drugs, but it is management and measures that mark our later-day progress. By the nostrum tenets, polypharmacy is essential and excessive drugging is the rule, both contrary to modern medical practice. Seventh, the nostrum evil stultifies physicians, because it makes them dishonest. They can not be honest if they prescribe things of which they know little or nothing. Dr. Musser urged medical men to be true to themselves and to hearken to the warnings of the paper. Concluding, he said: "Let us lash with thongs of indignation those tempters who, with literature that is beyond all measure untruthful, unscientific and presumptuous, and with words of rank sophistry are surely entwining us in a python-like grasp that will strangle us, to feed their coffers."

Dr. W. G. Moore, St. Louis, heartily agreed with the statement that there is no subject of greater importance than that embodied in the paper just read. He presented to the Missouri State Medical Association a paper along the same lines and feels greatly re-enforced by Dr. Billing's paper. If there is any infamy blacker than this that confronts the medical profession, Dr. Moore does not know of it. Nothing can be a greater curse than this subsidizing of medical journals. When Dr. Billings was mentioning the various companies, Dr. Moore thought he had been living in St. Louis, but, instead, he is at the other end of the canal and the stench reached him up the river. There are medical journals published to-day that should be placed in the sewer. The best efforts of medical men are demanded, and physicians should not only refuse to support, but should despise such journals as publish advertisements of these secret nostrums. He said that he could not understand how any one could trust a patient to the care of a man who would consent to give something that the hired man had taught him to use. The laborer is worthy of his hire, and Dr. Moore respects his mission, but he can not honor his employer. In a recent issue of a prominent journal Dr. Moore saw this statement regarding the treatment of gastroenteritis: "Apply warm all over the abdomen; place a cotton compress over it and bind on antiphlogistin (blue mud), and you will have no further need of doctors or medicines."

Dr. Alfred Stengel, Philadelphia, said that the nostrum evil is such an insidious one that the best informed may be taken in. As Dr. Billings has pointed out, these preparations are placed before physicians in such a way that, unless they have abundance of time to look into details, it is difficult to distinguish *bona fide* chemical preparations from untrustworthy mixtures. When the copy of The Journal containing the analysis of certain nostrums was issued, one of his colleagues asked Dr. Stengel if he knew that phenalgin was not a chemical combination. The physician in question was under the impression that it was and was greatly surprised to find that it was a mere mixture, subject to constant change and with no guarantee of its character. Dr. Stengel declared that it is important that the members of the Section on Practice of Medicine, as a body, should take a firm stand at this time. The remedy for many of the evils that affect the profession is in organized action. This association has a membership of 19,000; in addition to the members, from 14,000 to 15,000 other subscribers read The Journal; whatever attitude the members take officially and whatever point of view is supported in the editorial pages of The Journal will reach so arge a number of readers that the association may confidently hope for a removal of such evils as it attempts to correct. Dr. Stengel said that he felt, therefore, that, as a Section, they should indorse the Board of Trustees in their appointment of a "committee" to investigate and to make public the character of various substances or compounds offered as medicines and that they should indorse all that Dr. Billings has said.

Dr. James J. Walsh, New York, seconded the resolution presented by Dr. Stengel. He stated that, while he is in accord with others in blaming the medical journals, he wished to call particular attention to the fact that it is the members of the medical profession themselves who are most to blame. He said that there is no use in physicians hiding their shame behind objections made against the management of the medical journals of the country. The manufacturers of secret nostrums find only too many customers for their wares, and even in medical centers, where physicians are supposed to be well educated, the evil of prescribing secret nostrums of various kinds is very widespread. Within a few years, it has been shown that in New York City about 70 per cent. of all the prescriptions written contain some proprietary medicine that ordinarily would be expected to fall under the ban of professional use. Dr. Walsh has made it his business to secure information regarding these preparations whenever he could. On a number of occasions, when the agent of a firm has brought some new and especially seductive nostrum, hitherto unheard of, but recommended as good for nearly every ill that flesh is heir to, and a few others besides, he has inquired of druggist friends as to whether the new remedy was being prescribed or not. In nearly every case, he found that, within a month after the new remedy was so persuasively introduced by the agent, some physicians were prescribing it in their practice. This emphasizes the necessity for making the physician realize that in doing this he is selling his birthright for the proverbial mess of pottage and not always getting the pottage.

Dr. W. O. Bridges, Omaha, Neb., said that he feared that the resolution does not reach far enough. An appeal should be made to the individual physician, whether he be a member of this organization or outside it. Dr. Bridges believes that a large number of physicians unconsciously and unwittingly prescribe these secret nostrums against which we are making war to-day. He stated his belief, if physicians discontinued receiving the journals which advertise these preparations, more than one-third of them would go bankrupt. A friend of his, an editor and publisher of a metropolitan daily, recently told him that, since the expose of the secret remedies by the *Ladies' Home Journal*, his paper had suffered a loss in advertising income of one thousand dollars a month. Dr. Bridges declared that the profession is largely responsible for the conditions which exist. Dr. Moore has stated that a large number of these journals should be thrown into the sewer, and Dr. Bridges believes that still better results would be accomplished if physicians declined receiving them at all, that they might be returned to the offices from which they emanate.

Dr. J. T. Priestley, Des Moines, Iowa, said that the graduates of the various institutions in this country have had neither the time nor the opportunity to learn to dispense their medicines, and in this they certainly are weak. He mentioned the case of a bright young man who told him that he had ordered so much calomel to be placed in so much water and a teaspoonful given so often. It must be remembered that at times a very affable gentleman comes along and shows something that appeals to these young and untrained men. Dr. Priestley believes that the fault is in the teaching. If the young men were taught how to prescribe drugs as well as to give them, there will be much less of this nostrum evil.

Dr. John A. Witherspoon, Nashville, Tenn., said that too little attention is given to the actual bedside teaching of the management of disease. Most young men leave college with an imperfect knowledge of the physiologic action of drugs and imperfectly prepared to make any therapeutic application to a case in hand. Dr. Witherspoon blames the man who has the proper instruction and who takes the responsibility on his shoulders of caring for a human life without a due sense of that responsibility, and who prescribes drugs at the dictation of the traveling man. The medical man who continuously and constantly keeps on prescribing such secret remedies becomes narrow and contracted in his ability to handle disease and becomes like the negro in Mississippi who was given a new safety razor to use. Shortly after, the donor saw him and asked him how he liked his new razor, and the answer came that it was good for shaving purposes, but for marriages, social functions and funerals it was perfectly useless. Now that is the position of the physician who continuously prescribes these quack nostrums; he will become perfectly useless in the practice of medicine. Many men who publish journals are not men who can be considered as molding public or professional opinion in medicine. Medical men should continue to fight them, and also should make it appear disreputable for any journal to publish these nostrums.

Dr. Joseph M. King, Los Angeles, Cal., declared that some men with a good knowledge of the physiologic action of drugs, will yet grasp at every will-o'-the-wisp, but one of our troubles is that the rank and file of the profession have not an exact knowledge of materia medica and therapeutics. In several of the large clinics in this country which Dr. King has visited, a great deal is taught regarding diagnosis, but he heard very little concerning treatment, and it would seem that clinics are being held to teach diagnosis only, and not for the purpose of teaching therapeutics also. Of course, no man can successfully treat a case until he can diagnose it, but the patient pays for the application of what the physician knows regarding remedies. It is important that the physician should have a thorough knowledge of the weapons at hand, and then he will not be so prone to run after false gods.

Dr. A. B. Grosse, San Francisco, Cal., said that the physicians of California are in full accord with the views expressed by Dr. Billings, or it might be said that Dr. Billings has practically expressed his sympathy with the work done by the

California *State Journal* under the able leadership of Dr. Jones. Dr. Grosse disagreed with some of the views expressed that the nostrum evil flourishes through the baneful influence of the subsidized medical press and the lack of therapeutic tuition in medical colleges. Just as long as the nostrum can be found in the advertising pages of respectable and standard medical journals, the root of the evil will not have been reached. He said that this is no time to mince words and we may as well admit the error of our ways. Even the official organ of the association, THE JOURNAL of the American Medical Association, has had its advertising pages polluted by the nostrum manufacturers, and this in the face of an organized fight against the evil by the California *State Medical Journal.* Dr. Grosse urges immediately remedying these abuses. He said: "Let us purge the advertising pages of THE JOURNAL so that our hands at least may be clean."

DR. THOMAS MCCLEAVE, Berkeley, Cal., stated that all physicians in California are greatly interested in this matter. He referred to the fact that several speakers had mentioned journals published especially to cater to this class of preparations, and said that THE JOURNAL of the American Medical Association is as great an offender as any. This crusade, he said, was started by Dr. Jones, editor of the *California State Journal of Medicine*, who called attention again and again to the advertising in the columns of THE JOURNAL of the American Medical Association and was villified for so doing. Dr. McCleave said that he should like to add to the resolution offered by Dr. Stengel or to make an amendment to the effect that the Trustees be requested immediately to remove from the advertising pages of THE JOURNAL of the American Medical Association the advertisements of these nostrums. He said that, under the stimulus of criticism, much of this objectionable matter had been removed from the pages of THE JOURNAL, but that some still remains.

DR. CHARLES G. STOCKTON, Buffalo, said that Dr. Billings' paper will do good because of the fact that he has mentioned names, and it is in this that courage is shown. If the names were more frequently mentioned, carefully but strongly, the profession would soon be educated as to what is right and what is wrong. Many in the profession are not of a way to learn what they should regarding these agents. Dr. Stockton said that he believed that the committee of the Association will help if names are mentioned, if a list of objectionable preparations is published regularly in THE JOURNAL.

DR. ALFRED STENGEL, Philadelphia, added the following to the resolution he offered:

> "*Resolved*, That the Board of Trustees be requested to effect the removal from the pages of THE JOURNAL of the American Medical Association of the advertisements of any nostrums."

He thinks that this resolution should be passed. Unfortunately, all the 200,000 doctors in the country have neither the time nor the facilities for looking into the composition of objectionable medicaments. It is desirable, therefore, that THE JOURNAL should contain no deceptive advertisements and that a list of desirable or undesirable remedies should be available to the profession.

DR. NORMAN BRIDGE, Pasadena, Cal., proposed an amendment that the Trustees be *requested* to remove the nostrum advertisements.

DR. R. H. CARTER, Victoria, Canada, said that, although he is not a member of this Association, he would like the Canadian Medical Association to be informed officially of what has been done. Physicians in Canada receive many secret nostrums and much advertising matter from time to time from all the different drug houses that Dr. Billings has mentioned.

The Physician's Duty.—It is not only a physician's duty to be a good doctor, but, if he will exercise the influence he ought, he should extend his culture and make himself an intelligent force—a force which, exercised through an organized body of medical men, is bound to make itself felt. While to know one's business *may be the* whole duty of the medical man, it is not the whole duty of the cultivated physician; not the whole duty to himself, or to the standing of his profession before the public.—Hurd, in *Buffalo Medical Journal.*

SYNCYTIOMA MALIGNUM.*

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DEFINITION.

In some of our latest works on pathology and gynecology we find this growth mentioned and thus defined:

Syncytioma malignum is a malignant neoplasm exhibiting the morbid physiologic characteristics of sarcoma and carcinoma.[1]

It is a degenerative malignant disease of the sarcomatous type originating in the decidual structures of the pregnant woman and tending to a rapidly fatal issue.[2]

It is a hemorrhagic tumor, a malignant growth developing in the body of the uterus, which belongs to the sarcoma group, and to a variety never before observed.[3]

It is derived from the syncytium, and the syncytium is the undifferentiated embryologic tissue, and the tumors derived from it are neither epithelial nor sarcomatous.[4]

It is a peculiar neoplasm of the uterus, peculiar in that it occurs only after pregnancy, in that its parenchyma is derived from two forms of cells, and, finally, in that its origin is in the fetal tissue and its development in the maternal organism.

I have found that but a comparatively few of the works recently published to be used as text-books in our medical colleges even mention this as a distinct neoplasm; this is a remarkable statement in view of the fact that there are now on record about two hundred cases of this tumor formation as differentiated from all other growths. Sänger began the record in 1888; Pfeiffer followed with a case in 1889; Sänger reported 12 cases in 1893; Bacon reported a collection of cases in May, 1895; Williams, 27 in August, 1895; Ladinski, 132 in April, 1902; Bandler, 150 in August, 1902; Teacher, 188 in August, 1904; since then I have noticed reports of the following cases: Metcalf and Swafford,[5] 1904, one; Wallert,[6] 1904, one; Krukenberg,[7] 1904, one; Bland,[8] 1905, one; total, 192.

There is no doubt that there have been other cases diagnosed, but not reported; and, again, other cases that have passed unrecognized because of the lack of facility to conduct properly examinations leading to a correct diagnosis.

NOMENCLATURE.

Those who reported these cases or who have contributed otherwise to our literature on this subject have used the nomenclature that seemed to them an exposition of their personal opinions as to the origin of this growth. Consequently, we have a confusion of terms, as carcinoma syncytial, malignant placentoma, sarcoma chorii, epithelioma serotinale, deciduoma malignum, deciduo-carcinomæ, sarcoma-deciduo-chorii-cellulare, chorioepithelioma, syncytioma malignum, etc.

The term syncytioma malignum is, in my opinion, the best designation for this particular neoplasm, in that it immediately fixes one's attention on the growth with its distinctive features, and in that it shows without the possibility of a doubt its derivation and its location, the conditions under which it must exist, as well as its relation to its host.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

1. Hektoen & Riesman: American Text-Book of Pathology, 1902.
2. Reed: Text-Book of Gynecology, 1901.
3. Cullen: Cancer of the Uterus, 1900.
4. McFarland: Amer. Jour. Obs., vol. xlix, 1904.
5. Metcalf & Safford: Amer. Jour. Obs., vol. l, 1905.
6. Wallart: Zeitschrift für. Geb. and Gyn., Stuttgart, vol. xliii.
7. Krukenberg: Diag. Mal. Chorionepith. Gyn., Stuttgart, vol. xliii.
8. Bland: THE JOURNAL A. M. A., vol. xliv, June 10, 1905.

DERIVATION AND HISTOLOGY.

According to Marchand's[9] theory, which is now generally accepted, this neoplasm is originally derived from the fetal ectoblast or trophoblast. Following the implantation of the fertilized ovum on the maternal endometrium, the trophoblast develops villi which penetrate the endometrium, reaching the maternal network of blood vessels from which the ovum is nourished. Covering these chorionic villi is found an epithelium consisting of two layers; the outer, the syncytium; the inner, Langhans' layer of cells, which Langhans considers mesodermal in origin, syncytium resulting when the blood comes in contact with fetal cells. This syncytium consists of protoplasmic masses which are the product of blood cells—the nuclei, being the changed trophoblastic nuclei. The derivation of these layers forming the covering of the chorionic villi is now the point on which those who have made the most exhaustive investigation along these lines disagree. Bandler,[10] who has studied the subject of placentation in the lower animals, concludes thus: "Clear in almost every detail, a trophoblast formation, consisting of an inner layer of separated cells and an outer or plasmodial layer, such as is found in the placental development of animals, is present in the human placentation." Many noted authors across the waters contend that this chorionic epithelium is derived from the deciduæ; consequently, that this growth is of maternal origin. Some authors have urged the opinion that the layer of Langhans disappears during pregnancy and that the outer layer remains. However much diversity of opinion there may be as to origin of these two layers covering the chorionic villi, it is universally agreed that this neoplasm takes its origin in these layers, and demonstrations have been made which leave no doubt that the protoplasmic masses found in this growth originate in the syncytium and that its individual cells are identical with those of Langhans' layer.

DEVELOPMENT.

This neoplasm is usually one of rapid development, running its course in a few days or weeks, although it may remain in a latent or quiescent condition for months after impregnation. I want to emphasize the fact that this malignant growth may develop during, as well as following, pregnancy.

In April, 1902, Ladinski[11] reported over a hundred cases showing that occurrence of syncytioma malignum or deciduoma malignum had taken place in from one week to twenty months after termination of pregnancy. In the same year Noble[12] reported a case examined microscopically by Dr. McFarland in which thirty months had elapsed between the last puerperium and the extirpation of the uterus for this neoplasm. In this case twenty months had elapsed before the first symptoms had manifested themselves.

In 132 cases collected by Ladinski[11] the average lapse of time was eight weeks after mole pregnancy; seven weeks after abortion, and five weeks after labor at term. Dorland,[13] in a report in a series of cases of this disease, says: "Fifty-nine and six-tenths per cent. manifested symptoms either during labor or within four weeks of that time; in 78 per cent. death occurred six months from the appearance of the symptoms.

LOCATION.

The usual location for this neoplasm is on the inner surface of the uterine wall, at the placental site; it may extend outward from the endometrial[14] surface or it may be intramural.

MICROSCOPIC APPEARANCE.

This growth occurs single or multiple, and it may be nodular or pedunculated. In size it is variable; it may be a small tumor or one filling the entire cavity of the uterus; in one instance, the weight is recorded at seven and one-half pounds;[15] in its earlier history it is a somewhat firm mass of a pinkish-gray color, which later on becomes infiltrated by blood or dotted with circumscribed hemorrhagic areas, changes to a soft fragile mass, usually sharply defined from the muscularis. It is prone to ulcerative processes, and it may become enucleated and escape from the uterine cavity in the lochial discharge.

MICROSCOPIC APPEARANCE.

Some authors have asserted that a greater part of this tumor is made up of degenerated muscle cells; others oppose this, claiming that the cells formed in the muscles are in reality choriomatous cells which have invaded the muscularis by the process of infiltration. In a microscopic examination of this growth protoplasmic masses are found, which, because of their arrangement, sometimes assume a striated appearance; then, again, they simply form irregular masses; these masses are homogeneous and contain nuclei which readily imbibe stain, while here and there throughout these masses are found vacuoles, some of which are found to contain blood cells; these constitute the syncytium.

Aside from this structure are found cells with boundaries well marked, and distinct muscular division, all together forming an atypical representation of normal placental tissue. Another element sometimes present in this formation is the chorionic villi; Reed claiming that these may be found entire, but marked by aplastic features. The proportion of these elements may vary in different stages or in different parts of the same neoplasm; so, also, may different degrees of degeneration be found. Bland[8] claims that the tumors containing the chorionic villi do not have so great a tendency toward malignancy.

METASTASES AND SECONDARY GROWTH.

This tumor is one in which metastases occur quickly and early in the history of its formation; this is one of the most distinctive features of the syncytioma malignum.

When we study the subject of placentation, its normal activities resulting in the giving up of nourishment from the maternal circulation for the vital processes in the fetus, we do not wonder at this property of metastasis, carried on by means of these same maternal blood vessels from these same elements or tissues; which tissues, instead of carrying out Nature's design to make the pregnant as well as the parturient condition a physiologic one, have by some means been thwarted in the performance of their legitimate work. Metastasis takes place almost entirely through the blood vessels. Gebhard and Menge[16] reported cases in which the lymph channels transmitted the material forming the secondary growth. This may have taken place in the later stages. The site for the formation of these secondary growths may be in any tissue, however remote, as well as in tissues adjacent to the primary location. The secondary formation may be the first manifestation of the disease, and it may equal or exceed the primary tumor in size. In gross appearance, as well as in histologic features, it is identical with the original growth. Of 52 cases reported by Dorland, the secondary growths were found in 70.76 per cent. Relative frequency of occurrence in the various organs he computed as follows: In lungs, 78.37 per cent.; vagina, 54; spleen, 13.5; ovary, 13.5; kidney, 13.5; liver, 10.8; broad lig., 10.8; pelvis, 10.8; brain, 5.4.

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[9] Marchand: Monat. of Gebart, Gyn., vol. 1, 1895.

[10] Bandler: The Trophoblast and Chor. Epith. Am. Jour. Obs., vol. xlvi.

[11] Ladinski: Am. Jour. Obs., vol. xlvi, 1902.

[12] Noble: Am. Jour. Obs., vol. xlvi, 1902.

[13] Dorland: Statistics, Mal. Decid. Univ. Med. Mag., vol. xiv, 1897.

[14] Theilhaber: Archiv. of Gynäk., 1894, vol. xlv, p. 56.

[15] Croom. Med. Press and Chir., June 25, 1902.

DIAGNOSIS.

The prime factor in the diagnosis of this disease is that it is a tumor formation dependent for its origin on impregnation. It has been shown that it may occur after delivery at full term, abortion, or hydatid mole pregnancy. The first symptom usually manifesting itself is hemorrhage that will not yield to any usual methods for relief. A hydatid mole formation may be found in the uterus; this may be a guide to a correct diagnosis. Findlay,[17] in his clinical deductions from 210 reported cases of hydatidiform, found that in 25 per cent. of mortality, of these 210 cases, syncytioma malignum claimed 16 per cent.; other statistics show that 50 per cent. of all cases of syncytioma malignum follow hydatidiform mole. Following the hemorrhagic discharge, there may be a foul watery discharge, as the necrotic conditions take place; pain may be present, later referred to the pelvis; headache not localized, cachexia, anemia.

On examination, the uterus may be found enlarged and soft with os patulous, on manipulation, tumor may be localized; a specimen should always be subjected to an examination under a microscope. In themselves the clinical symptoms are not pathognomonic, but in combination with history of patient, her age, her previous parturitions, confirmed, as a rule, beyond doubt by the microscopic examination of the specimens obtained, the diagnosis should be correctly made.

COMPARATIVE DIAGNOSIS.

All modern writers who have thoroughly studied the different phases of this growth, and who now consequently recognize the distinctive morphologic and pathologic features, do not hesitate to call it an intensely malignant neoplasm, and to place it in the list with other malignant tumors of the uterus. Reed classifies malignant neoplasm of the uterus thus: 1. Syncytioma malignum; 2, adenoma uteri; 3, sarcoma uteri; 4. carcinoma uteri; 5, exceptional cases.

In making a diagnosis, these four neoplasms must be considered, as well as remnants of abortion; the main distinctive features may be tabulated thus:

Adenoma Uteri.

1. Malignant degeneration of gland structure.
2. Long duration.
3. Least active, less pain, less hemorrhage.
4. Papillomatous growth or growths.

Sarcoma Uteri.

1. Developed from embryonic connective tissue.
2. Has no arrangement of cells.
3. Has intercellular reticulum.
4. Blood vessels are abundant, thin walled, and lie between cells.
5. Metastasis by blood vessels.
6. Peculiar to young in life, before age of 35 years.
7. Slight tendency to ulcerate.

Carcinoma Uteri.

1. Developed from epithelial cells.
2. Cells arranged in alveoli.
3. No intercellular tissue, same being arranged about groups of cells.
4. Blood vessels not abundant, and lie in the stroma, not between the cells.
5. Metastasis by lymph channels.
6. Occurs generally in middle and advanced life, after 35 years.
7. Great tendency to ulceration.

Remnants of Abortions.

1. Shaggy appearance due to composition of slender threads.
2. Not friable.
3. Placental cells with nuclei, always present, isolated by wide zone of protoplasm.

Syncytioma.

1. Dependent on pregnancy.
2. Fifty per cent. of all cases follow hydatidiform mole.
3. Average age, 33 years.
4. Developed from chorionic epithelium.
5. Disease of child-bearing period.

COMPARATIVE MALIGNANCY.

In comparing this neoplasm of the uterus with other malignant new growths of the same locality, we claim that it outranks all others in the degree of the severity of the malignant manifestations, because of its unheralded attack on the part of the human organism that has but a short time previous been called on to perform a function that has no parallel among all of the many and varied functions of our economy; because of its presence made known only when it is already well developed; because of its early proneness to rapid metastases; because of its great danger dependent on the site selected by these secondary growths; because of its short history; because of its almost certain tendency to fatality from exhaustion, hemorrhage, sepsis, etc.

REPORT OF CASE.

Patient.—Mrs. A., aged 31 years; primipara, married two years, family history negative. Husband has syphilis in tertiary stage.

History.—Low vitality, sedentary habits; chronic constipation, menses regular, but scant, never painful, but accompanied by intense malaise. The first six months of gestation were uneventful. During the seventh and eighth months there was persistent headache, which at times became unbearable, patient relying for its relief on household remedies and headache powders obtained at drug stores, never at any time consulting a physician. At the end of the eighth month of gestation I was called and found the patient in labor, with os dilating slowly; labor continued thirty-six hours; pains far apart, anemic and manifesting hysteria throughout the period; no other marked clinical symptomatology except dilatation of both pupils. At the end of thirty-four hours I made a forceps delivery which was accomplished in thirty minutes with no outward effect on the patient; child still-born, small and poorly nourished. While inserting one blade of the forceps I came in contact with a nodular mass, some four inches in length or diameter, on the inner uterine surface, quickly removing a portion I placed it in alcohol to examine later. In thirty minutes placental delivery was finished; hemorrhage profuse; thin with disagreeable odor. I remained with patient four hours because of her exhaustion. On my return thirty hours later I found the patient exhausted, pupils in same condition of dilatation, lochia foul. A sudden severe attack of tonsillitis kept me confined to the house for ten days; consequently, the subsequent history could not be followed by me. Patient died, evidently from exhaustion, three days after delivery. I subjected the section of enucleated portion of suspected tissue to a microscopic examination, using the Mallory and Wright technic, the clinical history of the case leading me to suspect neoplasm dependent on pregnancy. I could not detect villi in sections examined, but recognized cloudy masses without cell walls containing two or more nuclei, which readily imbibed stains, in combination with clearly defined cells in different stages of proliferation or degeneration; cells of varied size with karyokinesis manifested; blood cells were present, as were also hemorrhagic spaces. The diagnosis was syncytioma malignum.

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[16] Menge: Ueber Deciduo Sarcoma Uteri, Zeitschrift für Geb. and Gyn., xxx.

[17] Findlay: Hydatidiform Mole, Trans. Gyn. Soc., Chicago, 1903.

The peculiarities of the case were that the tumor formed preceding delivery of fetus, the persistent severe headache, the well-marked dilatation of pupils showing possibility of metastasis into brain tissue.

Davis and Harris[18] reported a case of this neoplasm in a multipara two months after parturition with severe unlocalized headache as the one prominent symptom; at the autopsy, syncytial tumors were found in the brain, lungs, kidneys and liver.

Dean, professor of ophthalmology in the Iowa State University, states that a frequent result of brain tumor is dilation of the pupils with slow reaction to light; frequently the pupils are unequal. A choked disc should also be present. A tumor in any part of the brain may produce this condition, but those of the cerebellum most usually are the cause.

There are instances recorded in which hydatidiform mole formation and pregnancy have existed in the uterus simultaneously with delivery of a healthy child at term.[19]

Depaul remarked: "All the world knows that the celebrated Beclard was the result of a hydatidiform pregnancy." He urges the possibility of a viable child being born as a reason for abstaining from active interference.

Carcinoma and pregnancy may coexist in the uterus. I will briefly refer to Cohnstein's[20] 134 cases prior to 1873, Theilhaber's[14] 165 cases from 1873 to 1893, while Noble[21] has found 165 cases recorded since 1886. Further, 61 per cent. of Cohnstein's cases went to term; in 36 per cent. of them the child was born alive, while in 47.2 per cent. of Theilhaber's cases the child was born viable.

Polano[22] claims that the tumor malignant epithelioma follows or may coexist with hydatidiform mole.

I claim that malignant epithelioma or syncytioma may coexist with pregnancy.

CONCLUSIONS.

"It is the accumulation of our experiences that makes our empirical knowledge at last a fact."—Munday.

In my case just reported, could the syphilis of the father have had anything to do with the formation of this malignant neoplasm in the mother? We have abundant proof all about us of the unlimited influence that the fertilizing element may exert on the ovum; further researches in biology, physiology and chemistry may throw some light on this interesting study.

Again, the growth of these elements that make up this tumor depend on the maternal nourishment; if the maternal circulation is disturbed or impoverished by a constitutional disease, such as syphilis, could this not result without the syphilitic germ being manifested in the new growth?

The power of the maternal blood has been demonstrated in its action on the trophoblastic cells, changing them to syncytium; could not this maternal blood by a slight relative change in its own elements cause an undue proliferation and consequently a degeneration from lack of proper supply of blood in these very elements, and this cytolysis result in a neoplasm with the distinctive features of this one?

Fifty per cent. of the cases of hydatidiform mole are followed by syncytioma malignum. From this statement one would deduce the opinion that the same cause that produces the hydatidiform mole must necessarily be an etiologic feature in the production of syncytioma malignum. There have been many and varied opinions recorded as to the etiology of hydatidiform mole, but as yet none have proved satisfactory.

In the evolution of theories which have been recorded from time to time as to the real nature of hydatidiform mole, beginning with that of Hippocrates that it was thickened sperm; later Litre's view that it was due to the hypertrophy of the Nabothian glands and down to the view promulgated by Virchow[23] that it was due to a myxomatous degeneration of the chorionic villi, we have reached the conclusion held by Marchand[24] and the most generally accepted at the present, viz.: hydatidiform mole is due to a proliferation of the syncytium and of Langhans' layer, accompanied by a dropsical condition of the chorionic villi.

Findlay[25] claims that this condition results from a disturbed maternal circulation causing these elements to penetrate more deeply into the decidua where nutrition is adequate.

Bacon[26] continues thus: "The hydatidiform mole, which is very frequently found in these cases, predisposes to the growth of the tumor, deciduoma malignum, by diminishing the resistance of the uterine tissue to these elements." Could one not find cause for this in the continued vitiated blood supply of the syphilitic subject?

We hope for a speedy solution of the problem as to the causation of this neoplasm; a solution which in all probability will settle the question of etiology for other malignant growths of the uterus, as well.

We look to biology to focus its research on the cell processes and to differentiate between the normal and the pathologic changes taking place within the cell; the study of the cause of cell proliferation opens up another avenue full of hope; the greater our knowledge of cytomorphoses the clearer will be our understanding of cell proliferation. We look to chemistry to show the natural cell constituents and to differentiate between these and the products of the metamorphoses taking place in the neoplasm.

Cell growth is controlled by certain stimulating and inhibiting influences: knowledge of these may explain many of the now unknown phenomena, including the retrogressive metamorphoses that are attributed to the cels of this tumor.

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[18] Davis and Harris: Am. Jour., Obs., July, 1900.

[19] Parvin: Science and Art of Obs., 1886.

[20] Cohnstein: Arch. of Gynäk., 1873, vol. v. p. 3366.

[21] Noble: Med. News, 1895, vol. xlviii.

[22] Polano: Volkmann's Klinische Vortraege, No. 320.

[23] Virchow: Virchow's Archives, 1903.

[24] Marchand: Monatsch of Geb. and Gyn., 1895.

[25] Findlay: Diag. Dis. Women, 1903, Lea Bros.

[26] Bacon: Am. Jour. Obs., vol. xxxi, 1905.

DISCUSSION.

Dr. W. O. Henry, Omaha, said that hemorrhages following abortion or labor, and the rapid growth of the tumor and its early metastasis, should lead the physician to suspect that it is of malignant character. This is a particularly fatal disease and rapid in its course. Not much can be done in such cases unless the diagnosis is made in the very beginning and then a radical operation done. Dr. Henry disagreed with Dr. Branson that this disease might be a manifestation of syphilis; syphilis is, indeed, a terrible disease, but he believes that too many things are laid at its door. Whenever a physician is confronted by a condition which he can not explain he is apt to conclude that some member of the patient's family had syphilis as a primary cause of the trouble. This, Dr. Henry believes to be a serious mistake. Physicians should always seek for a scientific rather than ascribe so many of these obscure conditions to syphilis, simply because they can not be explained on other grounds.

A STUDY OF THE BONY PELVIS IN ONE HUNDRED AND FIFTY CASES.*

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CHICAGO.

In reviewing my work in pelvic measurements in the past five years, some general impressions were borne in on my mind relative to the frequent causes of deformities in the cases handled and the not infrequent difficulty encountered in the normal pelvis, which moved me to take some notes in regard to childhood, puberty, family and general habits, to verify, if possible, the impressions left by my daily work.

The cases in which sufficient notes have been taken to permit of an accurate report are those personally attended by me, though often assisted by medical students and internes, and are made up of private and dispensary cases in about equal numbers. Seventy-three have been attended in their homes and 77 in the hospital, 150 cases being considered.

In studying the pelvic measurements in this series of cases a diagonal conjugate of 11.5 cm. or over has been considered a normal pelvis. A pelvis has been considered generally contracted when all external measurements were diminished with the diagonal conjugate, 11.5 and less, and simple flat with a diagonal conjugate of 11 cm. and all external measurements normal.

Rachitic pelves were distinguished by the narrow conjugate and flaring brim, as shown by the decrease of distance between the crests and spines.

Over 82 per cent. of the cases (124) were normal in measurements, and somewhat over 17 per cent. (26) were deformed.

In classifying the deformities eighteen or 69.23 per cent., were generally contracted. Four, or 15.38 per cent., were simple flat and four rachitic.

In the deformed cases, 16, or 61.54 per cent., were normal deliveries, and 10, or 38.45 per cent., were operative. The operations included mid-forceps twice, high forceps twice, extraction twice, version and extraction three times and Cesarean section once. The indications for operation were the bony pelvis and malpositions.

Of the normal cases (124), 112 were delivered spontaneously, and 12, or 9.67 per cent., were operative.

Classifying the operative work in the normal cases, low forceps was applied once, mid-forceps six times, high forceps twice, extraction twice, version and extraction once. These operations were indicated by an oversized child four times, inertia with large child three times, toxemia once, eclampsia twice, transverse presentation once and breech once.

In comparing the size of the child at birth with the size of the pelvis—those born of normal cases averaged 7.94 pounds, and those from deformed cases 6.43 pounds—making an average of one and one-half pounds in favor of the normal pelvis. It is to be regretted that an accurate weight and height measurement was not kept of the mothers, but only a portion had been noted, not enough to carry out a correct report.

A study of 135 cases was made to determine the relation, if any, of the child's average weight at birth to occupation and diet in the mother during pregnancy.

Eighty-eight mothers were found inactive and abundantly well fed. The average weight of their infants at birth was 8.06 pounds.

Thirty-eight mothers were compelled to take active exercise, with plain but wholesome food, and the average weight at birth of their infants was 6.7 pounds. Nine mothers were ill with chronic diseases during pregnancy, and the average weight of their infants was 5.77 pounds. These cases were studied individually, and about half were attended in the hospital and about one-half in their own homes.

Many patients were kept in the hospital for several months before labor, but those that were charity charges were obliged to do active housework and they were considered as active patients on plain but wholesome diet.

It soon became noticeable that the active patients had short easy labors, with moderate weight in the child, while the inactive private patients that waited with us, and whose appetite was tempted by friends and relatives, often had the most tedious labors, with oversized children.

As we were so often met with reproachful surprise when a charity applicant was informed that she must work for her board, both she and her friends thinking because she was pregnant that it was cruelty to expect her to do active housework, we determined to study the matter more closely and began the notes which furnish these figures.

A temperature and pulse record, with observations as to excreta, is taken daily of all waiting and working patients, and a patient showing any evidence of toxemia is not permitted to work, but is placed in bed and diet restricted.

An abdominal supporter is advised in all cases of pendulous abdomen, but when there are no unusual symptoms the patients are encouraged to do an active day's work up to the time of delivery, and private patients are directed to walk two or three miles in the open air daily.

The nativity of the patients gives 105 American, or 70 per cent., and forty-five foreign born, or 30 per cent.

The deformed patients show twenty American and six foreign. A preponderance of the deformities were of the generally contracted type, of which there were twenty American and two foreign; simple flat, three American and two foreign; rachitic, two American and two foreign. The foreign cases were classified as follows: German, 10; Italian, 7; Irish, 7; Scandinavian, 7; Russian Jew, 6; Austrian, 5; English, 2; Dutch, 1. This gives 19 per cent. of American women with deformity and 13.33 per cent. of foreign. Though the number of cases is rather limited for accuracy, this is evidence that European women may not have, as has so long been believed, a larger number of contractions than our own country women.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Some notes have been made as to education and attendance in school. All foreign-born women were illiterate (18) or of common-school education (27), not being in school after the twelfth or fourteenth year. Their menstrual period began as an average at the fourteenth year, and their deformities were divided equally between the three varieties. Of the 105 American-born women, twenty-five were of high-school, academy or college education. Seventy-five had a common-school education, being in school until the fourteenth or sixteenth year. Five were illiterate. Their first menstrual period average was at the fourteenth year.

In comparing the normal with the deformed cases, it could not be determined that application to school duties had anything to do with the growth and development of the bony pelvis; neither had such diseases of puberty, as chlorosis or chorea, malaria or other chronic wasting disease which attacked the body after the bones had once received a normal childhood start.

In looking for causes of pelvic deformity in this series of cases, the family history and childhood history was carefully noted.

Artificial and improper breast feeding is so commonly the cause of rickets that the four cases of rachitic pelvis were easily classified under that head.

The simple flat cases could not be assigned to any one cause, but occurred in cases where "delicate in childhood" was a common statement.

The parental history so far as obtained of all deformed cases was interesting, confirming the theory that contractions of the general type is a form of degeneracy.

The following is a list of the diseases mentioned as affecting one or both parents of the twenty-one patients out of twenty-six deformed: Inebriety, seven times; rheumatism, twice; heart and kidney disease, twice; tuberculosis, three times, and syphilis once. Two had a negative history and three were not noted.

CONCLUSIONS.

Deformity occurs often enough to make pelvimetry a practical part of the examination of pregnant women.

Generally contracted pelves form by far the most common deformity in American women, though the rachitic pelvis is often present in those who have been artificially or imperfectly breast fed in infancy.

Inebriety in the parents is the most constant element toward degenerate types in the deformities studied.

The size of the infant can be regulated by diet and exercise if carried out strictly for a proper time during the last three or four months of pregnancy.

SUMMARY OF NOTES.

Number of cases studied 150

Primipara, 76; multipara, 74; attended in hospital, 77: attended in homes, 73.

Normal pelvis 124, or 82.66 per cent.
Deformed pelvis, 26 or 17.35 per cent.
Generally contracted, 18, or 69.23 per cent.
Simple flat, 4, or 15.38 per cent.
Rachitic, 4, or 15.38 per cent.

NATIVITY.

American ....105, 70 per cent.
Foreign .... 45, 30 per cent.

German	10	Russian Jew	6
Italian	7	Austrian	5
Irish	7	English	2
Scandinavian	7	Dutch	1

Nativity in deformed cases: American, 20; foreign, 6.
Generally contracted: American, 15; foreign, 2..
Simple flat: American, 3; foreign, 2.
Rachitic: American, 2; foreign, 2..

AVERAGE PELVIC MEASUREMENTS.

Number of cases 150

Spines	24.43	External conjugate	19.82
Crests	27.29	Diagonal conjugate	11.59
Trochanters	31.31		

Average in Normal Cases. Number of cases, 124.		*Average in Deformed Cases.* Number of cases, 26.	
Spines	24.70	Spines	23.10
Crests	27.55	Crests	26.00
Trochanters	31.63	Trochanters	29.7
External conjugate	20.26	External conjugate	17.7
Diagonal conjugate	12.29	Diagonal conjugate	10.9

AVERAGE WEIGHT OF CHILD.

Normal pelvis, 7.94 pounds. Deformed pelvis, 6.43 pounds.

Weight compared with occupation and diet.

Mothers inactive and well fed: Number of cases, 88; average weight of child, 8.06 pounds.

Mothers compelled to active exercise, with plain food: Number of cases, 38; *average* weight of child, 6.7 pounds.

Mothers ill during pregnancy with chronic diseases: Number of cases, 3; average weight of child, 5.77 pounds.

CHARACTER OF LABORS.

In normal pelvis 124
Normal deliveries 112
Operative deliveries 12

Low forceps	1	Extraction	2
Mid forceps	6	Version and ex.	1
High forceps	2		

Indications.

Large fetus	4	Eclampsia	2
Inertia and large fetus	3	Transverse presentation	2
Toxemia	1		

In deformed pelves 26
Normal deliveries 16
Operative deliveries 10

Mid forceps	2	Version and ext.	3
High forceps	2	Cesarean section	1
Extraction	2		

Indication.

Pelvic contractions with malpositions and one case of eclampsia.

EDUCATION.

American, 105.		*Foreign* (*European*), 45	
High school, academy or college	25	High school or college	0
Common school, in school until 14 or 16	75	Common school	27
Illiterate	5	Illiterate	18

FAMILY HISTORY OF DEFORMED CASES.

Number of cases 26
History not noted 3

Diseases of Parents.

Asthma	3	Heart and kidney	2
Inebriety	7	Tuberculosis	3
Neurotic	3	Syphilis	1
Rheumatic	2	Negative	2

100 State Street.

DISCUSSION.

DR. W. O. HENRY, Omaha, said that the number of cases is too small for accurate statistics. The report is instructive, however, because of the careful tabulation, and it is hoped that Dr. Davis and others will continue this work until the profession has a sufficiently large number of cases on which to base more reliable statistics.

DR. J. H. CARSTENS, Detroit, said that there was a time when physicians believed that deformed pelves were confined to the poorer classes, but more and more are developing in women of the better classes. Among the poor they are the result of bad environment and poor food, but among American women these factors usually do not prevail; hence some other factors are responsible.

DR. EFFA V. DAVIS said that perhaps too luxurious habits are permitted in pregnant women. In discussing the subject with Dr. Davis, many physicians have said that is impossible to do anything to limit the size of the child, but Dr. Davis thinks that this can be done. An infant that weighs ten pounds at birth is too large. Women who are active and careful in diet do not have such large babies, although they can have average well-nourished infants. Of course, once in a while a woman who has been well fed and idle is delivered of a small baby, and occasionally a poorly fed, hard-working woman will have a large child, but that is not the rule, and there may be other factors affecting the results in these apparent exceptions.

Meteorism in Pneumonia.—H. Schiller considers meteorism of considerable degree one of the worst prognostic symptoms in pneumonia. When it is distinct, he says, it indicates a severe and often deadly course.—*American Medicine.*

THE PSYCHOPATHIC MANIFESTATIONS OF THE NON-INSANE PSYCHONEUROSES.[*]

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The active, enthusiastic investigation and widespread interest in the nature and character of the insanities deserves most cordial consideration and support.

Heretofore the study of psychiatry has been more or less divorced from practical clinical neurology, while to the average general medical practitioner it was almost a sealed book. The tendency of modern medical progress, however, is such as to bring psychiatry into closer relationship with general medical practice by furnishing the general practitioner with more accurate scientific knowledge concerning the clinical aspects of insanity and its allied neuroses.

At the recent meeting of the American Psychological Association, the scientific program beautifully illustrated the practical trend of psychiatry in America at the present time, for it is interesting to note that the burden of the themes presented by the leading alienists in their papers and discussions was intended to enforce at least three practical truths:

1. The great necessity for a more thorough knowledge of insanity by the general medical practitioner.
2. The marked and prompt curability of insanity in its incipiency.
3. The extreme susceptibility of insanity to prevention.

Moreover, another important fact was also not only recognized but duly emphasized, viz., that, while insanity is primarily a psychosis of the highest order, yet there are a number of morbid mental states which, while showing a marked kinship to insanity, are not usually so regarded by the general medical profession.

These include such conditions as neurasthenia, hysteria, hypochondria, certain forms of epilepsy, the precocious dementias, paranoia, melancholia, mania, manic-depressive insanity, and the toxic and exhaustion psychoses. Many of these morbid states follow acute fevers like typhoid, pneumonia, la grippe, and other infections, or become the sequelæ of alcoholism, syphilis and other poisons, all of which in their clinical syndrome may present varying degrees of delirium, confusion and stupor.

Such psychoneuroses. as a rule, however, first come under the observation of the family physician, who, unfortunately, often fails to recognize their true psychologic significance until the obsession, impulsion, or imperative concepts and other mental manifestations accompanying them become so conspicuous and striking that the opportunity for the patient's recovery is thereby greatly lessened.

The extreme relational importance of these various so-called nervous disorders with insanity, while having been referred to occasionally in medical literature and now duly accepted by us, are not so well understood by the general medical profession as their seriousness justly warrants.

The special object of this communication is to emphasize the close kinship which they sustain to the great psychoses by their progressive transitional nature illustrated by their psychopathic manifestations.

To the average general practitioner the diagnosis, prognosis and treatment of the various nervous diseases become at once the most formidable clinical problem with which he is confronted. It is not strange, therefore, that in the incipiency of the states referred to he should fail to recognize their true psychologic significance or properly to interpret their more serious, morbid, progressive, incurable tendencies.

To the family physician such morbid conditions as neurasthenia, hysteria, hypochondria, the precocious dementias, paranoia, melancholia, and allied states are often recognized and diagnosticated as purely neurotic disorders, and even when the mental symptoms are very pronounced he fails fully to appreciate their true psychopathic significance. Hence what was formerly, and even to-day, regarded by many as a pure neurosis is now known by us to constitute a true psychosis. In making this differentiation between the neuroses and psychoses, however, and thus defining their special pathologic significance, much depends on our use and understanding of the term insanity. Dr. Dewey has recently shown that, according to views now generally prevalent, "if there be a dividing line between the neuroses and psychoses, insanity exists on both sides of this line." Hence, nervous prostration and hysteria are often nothing more nor less than a polite misnomer for actual insanity. Recognizing, however, that in all such psychoneurotic states there is a marked admixture of rationality, and that even in many the intelligence may be far above the average standard so that when the term insanity is even hinted at in their connection, much less applied, it necessarily meets with a vigorous, and perhaps just objection.

This opposition also seems the more feasible when we remember that associated with the purely mental phenomena various somatic disorders and disturbances of the different mechanisms of the nervous system, more especially those of the visceral and sexual organs, are often present in all degrees of intensity. Moreover, these may account, to some extent at least, for the clinical symptom-grouping and therefore should also be duly considered in not only their nomenclature, but in any classified system of their nosology. It is not surprising, therefore, that the many attempts which have been made by different authors to furnish a term to express the pathologic condition underlying such states—the same to be in strict accord with scientific medical nosography —should fail to overcome the serious objections to such terms as hysteria, neurasthenia, phrenasthenia, and insanity, when applied to these psychoneurotic states, as such terms are not only inappropriate, but often misleading, and, therefore, subject to criticism, and even by some regarded as bitterly offensive.

The term "psychosomatasthenia," therefore, suggests itself to me as being essentially appropriate and applicable to all such morbid conditions. Like its many predecessors, it is subject to some objections as, for instance, its length, yet it has the redeeming virtue of indicating not only the seat, but also the nature and character of the malady, thereby encompassing the two most essential features in every diagnosis, while its general use would readily and satisfactorily overcome the many objections to those terms now in use which give offence.

While all such psychoneurotic states are attended with every degree of physical infirmity which are chiefly illustrated in disorders of nutrition, yet we contend that the various somatic changes are primarily and essentially the result of weakened inhibition or lack of nervous innervation due to some defect of perversion of the higher cerebral nerve centers, whether this disturbance is in response to their protracted functional activity or the reverse of this, or to some hereditary effect or even toxic agent. Such morbid influence, however, in the early stages is undoubtedly capable of being readily repaired or adjusted by appropriate means, but if unduly prolonged without such treatment the lesion of necessity becomes more fixed and pronounced, and may even prove altogether irreparable in spite of all temporary expedients. The clinical study of the various psychopathic manifestations of the non-insane psychoneuroses and their special pathogenic significance, therefore, may be found most useful in aiding in their diagnosis, prognosis and treatment..

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

It is now a well-established scientific fact that neurasthenia, hysteria and allied states are simply the forerunners of actual insanity. Indeed, in the vast majority of instances such neurotic conditions constitute its earliest or incipient stage. Moreover, all authorities agree that incipient insanity is attended with physical and mental changes that are indicative of nervous exhaustion or nutritional defects which thus form its physical basis.

Increasing knowledge of the etiology and pathology of these psychoneuroses also emphasize the intimate relation existing between them besides endorsing the significant fact that insanity is but a different phase and further development of the same morbid process which underlies their protean clinical manifestations. Independently, therefore, of the purely physical phenomena that attend such morbid states, the psychopathic or mental symptoms demand our most earnest consideration, for on these hinge not only the diagnosis, but also the prognosis and treatment.

That the conditions of mental aberration comprised in these borderland and episodic states should present a wide range of symptoms of equally varying gravity is readily understood; hence we find them presenting every degree of seriousness in proportion as they involve the functions of the higher mental faculties. While the intelligence may not be materially implicated, yet there is in all such individuals a decided nervous weakness, or lack of inhibitory control which seriously mars the normal power of the will, weakens the judgment and intellect, and excites or depresses the emotional attributes. As the highest function of the nerve cell its power of inhibition or that energizing force which not only directs, but also restrains and controls the various mechanisms of the nervous system, it follows as a logical sequence that this supreme physiologic endowment by virtue of its late evolutionary development readily responds to the well known biologic law that those nerve centers which are the latest evolved are the least organized and consequently more vulnerable to all kinds of morbid influence.

Whatever, therefore, may be the cause of the various psychoneuroses, whether congenital or acquired, or due to hereditary defects, stress of all kinds or the result of some toxic agent, their first effect is seen in a lack of normal inhibitory control of the directing mental forces of the individual, which in turn produces nutritional changes that greatly weaken the various functions of the nervous mechanism.

With the higher inhibitory and controlling power impaired or abolished the instinctive inclinations also dominate and become highly exalted, varying with the peculiar idiosyncrasy of the individual. These are also attended with more or less headache, neuralgia, feelings of oppression, insomnia, unpleasant dreams, mental apathy, defects of memory, marked irritability, moroseness, and vacillating emotional apprehensive states, all of which are psychopathic manifestations of an unstable nervous organization.

"Blandford[11] has demonstrated that the most notable clinical psychologic feature observed as a result of lessened inhibition is an increased activity of the lower instincts or impulses normally held in check by the highest mental faculties. These, he claims, pertain chiefly to egoism or self-conscious emotional states, which owing to their lack of proper inhibition, are allowed to become unduly ascendant and even exalted.

Like all physiologic qualities, however, the normal power of self-control exists in every degree of strength and weakness in different persons. The same is true of the mental disposition or temperament and other sensibilities, all of which are modified and even largely controlled by the exercise of the will and judgment, while these faculties are again subject to the powerful influence of heredity, environment and education, together with other external conditions.

The psychopathic manifestations of psychosomatasthenia, therefore, consist in differing degrees of impairment of these higher psychical functions and are said by Regis to be fundamentally dependent on some lesion of the will. In their clinical aspects, however, they present every degree of exaggeration of the normal intellect, emotion, and will of the sufferer, thus comprising all forms of peculiarities, oddities, eccentricities, notional absurdities, obsessions of every kind, and even criminal tendencies, all of which at times are so cunningly concealed, or possibly even rationally defended, that their true nature and character are often overlooked, or their progressive, transitional, incurable, and even vicious, tendencies wholly disregarded.

Except in the most pronounced developments of these conditions, such persons are seldom found in our insane hospitals. They usually appeal for relief to the family physician, however, who is often at his wits' end to know how best to provide for his vacillating and even unruly nervous patient.

As a result of the weakened mental directive power due to lessened inhibition and consequent lowering of neuronic activity a general feeling of weakness or bodily illness is thus engendered, which attracts the attention of the patient to himself and forms the basis of morbid introspection with all degrees of apprehensive anxiety, suspicion and morbid fear. This again leads to the development of despondency, petulance, irritability, selfishness, impatience, hilarity, indecision, doubt, mental confusion, stupor and vacillating, impulsive conduct, all of which are marked features in the incipient or formative stage of insanity.

These psychopathic manifestations of the non-insane have been variously designated by the different authors as obsessions, besetments, imperative concepts, impulsions, and fixed ideas, all of which, however, consist of a general feeling of anxiety, doubt, or fear, which may lead later to impulsive acts like suicide and homicide.

As an aid to their diagnosis Regis has ably divided them into three classes, viz:

I. These characterized by indecision of which all kinds of morbid doubts are typical.

II. Those characterized by all kinds of morbid fears constituting the various phobias.

III. Those characterized by morbid propensities or irresistible impulsive tendencies.

Each of these is again subdivided, for instance, Ball has divided the first class, or doubters, into five different classes, according to the nature of their predominating ideas, hence we have:

1. The metaphysicians, who are especially haunted by abstract questions of all kinds, such as doubts concerning Heaven, hell, the world, the Deity.
2. The realists who constantly revolve in their thoughts the lower and base details of objects, such, for example, as the conformation of the genital organs, copulation, etc.
3. The scrupulous, whose doubts pertain to forms of religion, such as accusing themselves of committing the unpardonable sin, or of some theft.
4. The timorous, who are fearful of committing some indelicate action by even allowing their clothing to come in contact with others, etc.
5. The counters, whose doubts are manifested under the form of irresistible enumeration. Such patients never get through counting different objects, such as the door knobs, the houses on the street, or their number.

The second class, or those suffering from morbid fears or phobias, is divided into three sub-divisions:

1. Those who have a morbid fear of all kinds of objects, its expression is extremely varied, and may involve such articles as glass, knives, pins, guns, thunder, flowers, besides certain kinds of food and drink.
2. Those who have a morbid fear of places, elements of diseases. Such patients are morbidly fearful of high places, bridges, streets, churches, theaters, rivers, besides a dread of all kinds of diseases, such as heart disease, liver disease, cancer.
3. Those who have a morbid or irresistible propensity to steal, lie, cheat, drink, blaspheme, set on fire, or abuse the sexual organs.

The third class, or those having irresistible impulsive tendencies are illustrated in such conditions as suicide, homicide, crime and other impulsive or reckless conduct.

In the simplest form, all these vagaries consist of certain ideas which obtrude themselves in varied and divers ways on the consciousness of the individual, and in a limited degree they are present in health; indeed, very few of us escape the presence of doubts, fears and impulses as isolated sudden thoughts, but which are readily restrained or controlled by the dominating power of inhibition. For instance, it is a common experience for persons looking from a height to be tempted to jump down, or in riding on a boat to throw themselves overboard; or when walking in the streets they are suddenly seized with a desire to count the houses or numbers on the doors, or in leaving the office habitually return for fear the safe was left unlocked, or the water running from the faucet, or the doors or windows unfastened. Such doubts, fears and impulses are usually readily restrained; when, however, from any cause they constantly and persistently recur and get beyond control of the will, they eventually dominate the thought, speech and conduct of the individual, thus becoming true psychopathic manifestations of the underlying pathogenic factor which essentially consists in some lesion of the will, and consequent impairment or actual loss of power of self-control. Moreover, there can be little doubt that certain crimes are often due to such morbid ideation which arise in the minds of persons who are not ordinarily regarded as insane, and yet who are wholly unable to resist such pathogenic impulses. Indeed, clinical observation and experience demonstrate the truth that the line of demarcation between "psychosomatasthenia" and insanity is at times as dimly drawn as that which exists between sanity and insanity, or health and disease.

In conclusion, it would seem important, therefore, that in our clinical study of the various psychopathic manifestations of the non-insane psychoneuroses that the essential thing after all is not only to recognize the foundation on which they are based, but also the contributing factors which generate, foster, sustain and develop them into their fullest maturity.

Thus considered, the following deductions would seem warrantable:

1. The psychoneuroses which constitute "psychosomatasthenia" are the forerunners of insanity, and the only difference between them is one of degree.
2. In fundamental nature they are the same, viz., a pathologic lack of inhibitory control of the higher mental directive forces with consequent nutritional cellular instinctive and physical defects, which seriously mar the power of the will, weaken the judgment and intellect, as well as excite or depress the emotional attributes in all degrees of intensity.
3. Their causes are similar, being both congenital and acquired, while heredity, stress, and toxicity are the chief factors of each.
4. Independent of the purely physical clinical phenomena the psychopathic manifestations dominate the syndrome, direct the prognosis, and most acutely solicitate treatment.
5. In their incipiency they are extremely amenable to curability, but when neglected the morbid ideation becomes fixed and persistent, thus defying all therapeutic efforts to give relief.

DISCUSSION.

Dr. H. A. Tomlinson, *St. Peter, Minn.*, declared that Dr. Punton's effort to find some other term than insanity to describe mental perversion reminded him of a letter he once received from the mother of a patient, saying that the patient must be insane, after that it is simply a question of degree. It does not alter the nature of the mental disturbance to use another term, having the same meaning, to describe it. Dr. Tomlinson hopes that the time will come when the profession will frankly admit the fact of insanity and its significance, and that through the profession the public will be educated to recognize the existence of mental perversion as frankly as they do any other diseased condition. The difficulty is largely a social one and depends on the fact that, as the result of superstition and statutory provision, the word insanity suggests a stigma and gives the individual so afflicted a "subhuman" or quasi criminal status. Calling insanity nervous prostration or psycho-asthenia does not alter the condition or its nature, but it does lead to confusion and helps to keep up the medieval superstition with regard to its nature and significance. As a consequence, instead of being dealt with promptly and intelligently, it is hidden and improperly treated until it becomes chronic and is only recognized when the individual becomes a menace to himself or to the public.

Dr. Smith Ely Jelliffe, New York, said that he could not assent entirely to Dr. Tomlinson's point of view. He was reminded, while listening to Dr. Punton's paper, of his trip throughout Montana. The present study of the psychoneuroses has its analogies to the numerous prospectors' holes scattered throughout the state. Occasionally a deep shaft is found where a Brissaud, Charcot, Janet, Forel, or a Vogt has mined for useful truths, but the surface of pathologic psychology has barely been scratched. It is still in the prospecting stage. He thought it premature, therefore, to assume too much definite knowledge concerning the subject under discussion. He quoted Professor Cattell's remark that a 4-year-old child could exhibit more psychologic activities in an hour than a historian could record and analyze in a lifetime. It is folly, he said, to argue concerning words. It is natural that the needs of language are such that new words are inevitable, but the facts for which the words stand are antecedent, and a prevalent fault of all is to ascribe too much of an entity to word symbols, forgetting that they are purely abstract representations. Insanity is not an entity; it has no relation to an entity. Psychoneuroses as a word means nothing. Insane patients have series of symptoms. These symptoms are capable of description, of analysis, of synthesis, etc., and individual cases may be grouped, and generalized ideas made therefrom, but the abstraction should be clearly separated from the realities, especially in speech. It is imperative, Dr. Jelliffe believes, to discard the old metaphysical categories of the mental faculties. They are not separate nor separated by dividing walls—will, emotions, memory, are not separate in the mind. The entire mental life is continuous. There may be some anatomic groupings of elements that render Wernicke's ideas concerning pathologic psychology comparatively sound, but the old terminology of metaphysical psychology still encrusts and encumbers the psychiatry of today to the discomfort of students. Dr. Jelliffe is not in favor of the complex word used by Dr. Punton, as it creates an air of definiteness about conditions which are extremely hazy and which, he thinks, are only beginning to be understood. The simple term, psychoneuroses, including neurasthenia, hysteria and states of mild psychical depression or exaltation, is a better one to use. He agreed with Dr. Punton that the word insanity carries with it a stigma which, if applied to patients who are suffering from the varieties of psychoneuroses mentioned, works a great injustice. To say to the world that a person who has a psychoneurosis is insane, although he may be sufficiently ill mentally to be treated as a pronounced case of mental imbalance, serves no useful object and is often an imprudence which brings about a complete mental breakdown, which the physician should try to avoid.

Dr. H. T. Pershing, Denver, Col., said that when a physician is asked to determine whether a patient is or is not insane he must first ascertain whether the mind is changed by disease or defective by reason of imperfect development. He must then find the degree of defect. There are many mental defects which do not constitute insanity, but if the mind is so imperfectly developed that the individual is unfitted thereby for the ordinary relations of life then he is insane. Dr. Pershing thinks that if neurologists were to keep these two points in mind they would be saved a great deal of trouble, especially in medicolegal cases.

Dr. J. H. McBride, Pasadena, Cal., said that if Dr. Punton intends to be understood as saying that hysteria always precedes insanity he should certainly differ from him. Hysteria may precede insanity, but there are many insane who are never hysterical. Not all emotional display in insanity can be called hysteria. There is certainly a prejudice against the person who is known to have been insane, and it must be admitted that there is some reason for it. In most cases of recovered insanity it is not difficult to see that the insanity has left a scar; there is some loss of mental vigor and balance. Insanity is not a highly recoverable disorder. Out of ten insane patients possibly two or three recover and stay well. There are many cases of insanity in which the disorder is due to causes that might be called incidental, acute infections, traumatisms, etc. In these cases hereditary tendency must play a very subordinate part. In the great majority of cases, however, the insanity is essentially due to conditions of brain structure that are inborn. These people have brains that are made of crumbly material that breaks down under adverse conditions of life, and in these individuals there is a very low rate of recovery. Here the insanity is the final stage in a degenerative tendency that has been in operation for one or more generations. It is inevitable, therefore, that only a minority of cases of insanity should be curable. Nature is attempting to eliminate the unfit and, though she may adopt cruel methods and proceed in a bungling fashion and often fail, yet in the long run the object is accomplished.

The Physician's Holiday.—The reorganization of the medical profession makes it possible for one physician to leave his patients temporarily in the hands of another and fare forth into the world for a period of change and rest.—*Western Medical Review.*

INTESTINAL PERFORATION IN TYPHOID FEVER.

WITH REPORT OF CASES.

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In the general consideration of intestinal perforation in typhoid fever, it may not be amiss to compare it with appendicitis, relative to the surgical history of both. Without going into the earlier history of these pathologic conditions, it will be sufficient to consider them from the time they were prominently brought to the notice of the medical profession. The epoch-making contribution on appendicitis, by Fitz of Boston, appeared in 1886. What ought, equally, to have been the awakening call in regard to typhoid perforation was made by Leyden of Berlin, in 1884, and again in 1886 by Wilson of Philadelphia. What has happened meanwhile? An enthusiastic and glorious achievement for the surgery of appendicitis and only faltering and apathetic efforts in the direction of typhoid perforation; thousands of successful operations annually for the former, and, the world's record in 1904, 362 reported operations on the latter.

Why have we been so intensely active in regard to appendicitis and so hesitant concerning typhoid perforation, when such statisticians as Taylor and Brooks inform us that from 16,000 to 20,000 persons die annually in the United States alone from the latter cause? The answering explanation is not immediately obvious, particularly when we recall that the earlier consideration given to appendicitis was essentially for perforation, abscess and peritonitis. The difference is one of the anomalies of surgical progress.

Of all the explanations that might be advanced, the one that seems most reasonable is the poor results that followed early surgical efforts, in general peritonitis, from whatever cause, and the infrequent and fortuitous contact of the general practitioner with typhoid perforation.

The frequency of perforation in typhoid fever has been variously given by different authorities. Liebermeister found it in 26 of 2,000 cases (1.3 per cent.); Murchison in 48 of 1,580 cases (3.03 per cent.); Curschmann in 22 of 829 cases (2.7 per cent.); Armstrong (Montreal General Hospital) in 34 of 932 cases (3.66 per cent.). In my work it was present in 11 instances in 576 cases (1.9 per cent.).

Curschmann,[1] in his admirable work, says: "I believe that under the most unfavorable circumstances perforation occurs in not more than 3 per cent. of all cases of typhoid fever."

Children, it has been stated, are less liable to perforation than adults. My work offers no assistance on this point, since all the cases were in adults.

As regards sex, there seems to be but little difference, although perforation is said by some writers to occur more often in males. (As my own cases were almost wholly in the male sex, I have no basis for an opinion.)

Season seems to have but little influence. Curschmann states: "The frequency of perforation of the bowel, precisely like that of intestinal hemorrhage, may be extremely variable at different times." This I have particularly noticed in my own cases—the first 3 cases of 11 perforations, occurred in the late months of 1890 and the early months of 1891; the last 3 cases have occurred within the last six months—prior to March 15, 1905.

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[1] "Typhoid Fever and Typhus Fever," edited by Osler., Nothnagel's Encyclopedia.

That perforation is more likely to occur in cases accompanied by diarrhea would seem to be indicated by the fact that in 30 cases of perforation at Johns Hopkins Hospital, 20 patients had diarrhea, 16 of them at the time of perforation. My 11 cases of perforation showed marked diarrheal tendencies in only 4.

The relationship of tympany to perforation does not seem to be very marked. When there is deep ulceration [illegible] tympany, perforation may be more [illegible] bout by mechanical causes, such as straining at stool, turning in bed, etc. Curschmann is inclined to believe that tympany is not so much a sign of severe intestinal lesions as it is a symptom of severe general infection, which gives rise to paralysis of the muscular layer of the intestine and consequent gaseous distension. My own experience tends strongly to confirm this view.

Hemorrhage in typhoid fever occurs in varying frequency, in anywhere from 4 to 8 per cent., in the larger collection of reported cases. In 829 cases at Johns Hopkins Hospital it occurred in 6 per cent. In my 576 cases it occurred in 43 (7.4 per cent.), counting all evacuations of blood sufficient in amount to be termed hemorrhage; it was the cause of death in 11 cases. The average number of hemorrhages per case was 3.3. The average number of hemorrhages to each patient who died was 5.1. Hemorrhage occurred in 3 of the 11 cases of perforation.

Like perforation, I have found hemorrhage to vary considerably at different times, but with no well-marked relationship between the two. In my hemorrhagic cases the intestinal loss of blood occurred in nearly all during the primary attack of the fever, and seldom during a relapse.

In dealing with the subject of intestinal perforation, Keen[2] summarized the 83 operative cases that had been reported. The result showed 19.36 per cent. of cures and 80.64 per cent. of deaths. The first three operations ever performed for typhoid perforation were by Mikulicz, Kussmaul and Bontecou, in the order named.

Finney[3] gives a brief history of the 112 operative cases he was able to collect. Of these 23 patients recovered (20.05 per cent.).

Harte and Ashurst[4] summarize the 362 operative cases that they collected with the following results: Recovered, 94 patients (25.97 per cent.); died, 268 (mortality, 74.03 per cent.). Their analysis by lustrums gave:

1884-1888, 10 cases, mortality 90 per cent.
1889-1893, 16 cases, mortality 87.5 per cent.
1894-1898, 100 cases, mortality 72 per cent.
1899-1903, 166 cases, mortality 69.2 per cent.

This readily gives an idea of the progress in operative work.

Of my 11 perforation cases, 5 patients were operated on, with one recovery and four deaths—*recovery*, 20 per cent.; mortality, 80 per cent. All the patients not operated on died.

The status of perforations not operated on does not seem to change. Various writers place the mortality in *these cases* at 95 per cent., and this opinion is confirmed by Curschmann.

One can not comprehensively discuss the subject of intestinal perforation of typhoid apart from typhoid fever itself. A long list of cases from any institution, or practitioner's records, when carefully studied, can scarcely fail to be of value. The accurate and painstaking work on typhoid fever, performed under Osler, at Johns Hopkins Hospital, throughout a number of years, has been of incalculable benefit in the study of every feature of the disease. Similar work elsewhere, of course, is entitled to its proper share of credit.

Simply to review cases of perforation, I believe, would not be of the same value as if all typhoid cases were given, even brief, consideration. This report is intended to cover a period of fifteen years, from March 15, 1890, to March 15, 1905. The work was all performed within the Northern Pacific Railway Hospital, at Brainerd, and does not include cases among our employes and others treated at their homes. There is a peculiarity about the work that does not often exist outside of railway hospitals, and that is the extent of territory which the work covers. The patients came from along the railway lines in Minnesota, Northern Wisconsin, Manitoba, North Dakota, and as far west as the middle of Montana.

In view of the fact that more than 90 per cent. of the patients came from abroad, frequently with little or no previous observation or treatment, often in the second week of the disease, sometimes in the third, with mental hebetude, and occasionally delirium, already established, it will be appreciated how difficult it is to be exact concerning early clinical features in many of these cases.

During the fifteen years (1890-1905) we admitted and treated 576 patients with typhoid fever. Of these 534 *recovered* (92.7 *per cent.*), and 42 died (a mortality rate of 7.3 per cent.). The causes of death were as follows: Toxemia, with severe nervous manifestations, 12 (28.5 per cent. of the total mortality); hemorrhage, 11 (25.9 per cent. of the total mortality); intestinal perforation, 10 (28.8 per cent. of the total mortality); pulmonary complications, 5 (11.9 per cent. of the total *mortality*); acute heart failure, with sudden death, 4 (9.5 per cent. of the total mortality).

Exactly 75 per cent. of the 576 patients were admitted during the last six months of the year, from July 1 to December 31; the remaining 25 per cent. were admitted from January 1 to June 30, while over one-third (35.76 per cent.) of the total cases were admitted during the months of September and October.

In this series of 576 cases, 291 patients, over 50 per cent., were admitted and treated during the last five years, during which time there was a total of 16 deaths, from all causes, or a mortality rate of 5.5 per cent.

The total mortality rate in 829 cases of typhoid fever treated at Johns Hopkins Hospital during the years 1889-1899 was 7.5 per cent. Comparison tends to show that typhoid fever patients' chances for recovery are not necessarily minimized by being transported long distances on railway trains.

In the hospital we used Widal's method of serum diagnosis in a considerable proportion of the cases, particularly the doubtful ones. I wish incidentally to call attention to an objective symptom of typhoid fever, namely, tremor *of the tongue*. I have found it almost universally in all grades of cases, and from the earliest stage to convalescence. In character it may vary from complete loss of muscular control to a mere vibrating tremor movement, noticeable only near the tip. Associated with other of the usual clinical symptoms I have found it of value before Widal's reaction test could be elicited.

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[2] "Surgical Complications and Sequels of Typhoid Fever," 1898.

[3] "Surgical Treatment of Perforating Typhoid Ulcer," Johns Hopkins Hosp. Rep., vol. viii, 1900.

[4] "Intestinal Perforation of Typhoid Fever," Annals of Surgery," January, 1904.

Case.	Age.	General Course of Disease.	Bowels.	Hemorrhage.	Tympanites.	Day of Perforation.	Mode of Onset.	First Symptoms.	Abdominal Pain.	Chill.	Sweating.	Vomiting.	Collapse.
1	26	Moderately severe.	Diarrhea not severe	None......	Not marked	14th....	Sudden........	Severe pain in abdomen.	Yes......	No..	Profuse cold sweat.	Yes, a dark green material.	No....
2	30	Mild....	Constipation.	Two hemor's from nose on day of perforat'n.	Not marked.	16th....	Sudden........	Severe pain in abdomen.	Yes......	No..	No..	Yes....	No....
3	43	Mild....	No diarrhea.	None......	Not marked.	11th....	Sudden........	Ch	Yes, very severe.	Yes..	Yes..	Yes....	No....
4	28	Severe, with mental apathy and delirium.	Slight diarrhea.	None......	Yes....	17th....	With marked typhoid state; abdomen distended and involuntary bowel movement of small watery stools.	Distention of abdomen; irregular breathing; subjective symptoms concealed.	No, comatose..	No..	No..	Yes, before onset of perforation.	Yes...
5	25	Mild...	No diarrhea.	From bowels 7 days before perforation; temp. fell 3 degrees.	Not marked.	30th....	During bowel movement sudden severe diffuse pain in abdomen.	Severe cramp-like pain lasting only a few minutes.	Yes, very severe: diffuse at first; later localized in right iliac fossa.	No..	No..	Yes....	No....
6	37	Mild, early conval., relapse, complicated with phlebitis.	No diarrhea.	None......	Yes....	31st; 8th day of relapse.	Sudden severe abdominal pain; patient cried out in agony; face and extremities cold and clammy; pain in genitals.	Severe pain in abdomen.	Yes, diffuse; referred also to penis and scrotum.	No..	Yes..	Yes....	Yes...
7	24	Severe....	No diarrhea.	One on day of perforation.	Not marked.	19th....	Gradually increasing distension and tenderness; hemorrhage from bowels	Rigid abdomen, tender on pressure; rapid pulse.	None.....	No..	No..	Yes, late..	No....
8	20	Severe. Marked mental apathy.	No diarrhea.	Yes, 5 on different days preceding perforat'n.	Yes, marked.	48th....	Sudden	Severe pain near McBurney's point; chill.	Yes, severe in right iliac fossa.	Yes..	No..	Yes, late...	No....
9	30	Severe; high temp. and delirium.	No diarrhea.	None......	None, until late in disease.	17th....	Sudden; severe abdominal pain; lips pallid; very restless; skin cold and clammy.	Paroxysmal pains in abdomen.	Yes, severe in right iliac fossa.	No..	Yes, on extremities.	No....	Yes, very marked.
10	24	Mild, rapid conval., relapse severe.	No diarrhea.	None......	Not marked.	52nd, 10th day of relapse.	Sudden; severe colicky pain; lips pallid; face drawn and expression anxious.	Severe paroxysmal pain; most marked in right iliac fossa.	Yes, severe and diffuse at first; later localized on right side.	No..	Yes, slightly.	No....	No....
11	43	Mild; mental condition rather dull.	No diarrhea.	None......	Yes, marked.	15th....	Sudden; severe pain in abdomen with signs of collapse.	Severe abdominal pain; chill.	Yes, diffuse at first; later more on right side.	Yes..	Profuse cold sweat.	No....	Yes...

As regards the general treatment of the cases, I would say that in this hospital for more than sixteen years we have relied mainly on the tub bath.

The detailed histories and a table of our perforation cases will be given after the treatment.

PATHOLOGY OF INTESTINAL ULCERATION AND PERFORATION.

The lesions of the intestine in typhoid fever consist mainly of changes in the lymphoid tissue and these may be divided into four stages: First, the stage of hyperemia; second, that of medullary infiltration; third, that of necrotic destruction and ulceration, and, fourth, that of cicatrization. "In general these anatomic stages correspond with the clinical course of the disease. It is to be borne in mind that the intestinal lesion does not develop and extend simultaneously and uniformly, but rather in stages, often distributed over a considerable period of time, and it likewise undergoes involution in a corresponding manner" (Curschmann). This, in a measure, will account for the appearance of perforation at varying times in a long list of perforation cases. For a more extended description of the minute anatomic changes of typhoid fever, such authorities as Curschmann, Osler, Mallory and others may be referred to.

The so-called medullary infiltration and consequent coagulation necrosis may only extend to the muscular coat, which would form the base of the ulcer. This is most frequently the case. Or the ulcerative destruction

Temperature.	Pulse.	Respiration.	Condition of Abdomen.	Liver Dullness.	Leucocytes.	Operation.	No. Hrs. Aft. Perf.	Result.	Autopsy with Findings.	Condition of Appendix at Operation or Autopsy.	Number and Location of Perforations at Autopsy or Operation.
Fell from 102.2 to 97.2; then rose to 104.4.	Rose from 92 to 140.	Somewhat quickened.	Tender on right side.	None noted.	No count	No	. .	Death in from 48 to 50 hrs.	No autopsy.	. . . .	. . . .
Rose to 103 then fell to 102.	Rose from 98 to 112.	Not noted. .	Extremely tender in right iliac region.	Not mentioned.	No count	Yes	6	Death in 12 hours.	*Partial autopsy. .*	Not reported	Two in ileum 15 and 21 in. above cecum.
Rose to 104.6 then fell to 100.	Rose from 98 to 124.	Rapid violent hiccough.	Noticeable tenderness in right iliac area.	Not mentioned.	No count	No	. .	Death in 55 hours.	No autopsy.	. . . .	. . . .
By axilla; rose 101-104; later fell to 103.2.	Rose from 120 to 144.	Rose from 24 to 44.	Distended. . .	Abolished.	No count	No	. .	Death in about 56 hours.	*Partial autopsy* showed typical typhoid ulcers; intestines matted together with many adhesions. (One perfora'n found in ileum 12 in. from cecum.	Very adherent and inflamed.	One in ileum 12 in. above cecum junction.
Fell at first to 99.8; then rose 102.2.	Rose from 84 to 106.	Very rapid and shallow; hiccough.	Distended and extremy tender.	Obliterated.	No count	Yes	19	Death in 75 hours after perforation & 56 hrs. after operation.	Partial autopsy; bowels covered with *deposit* of lymph; perforation closed and stitches holding; appendix adherent.	Much inflamed and adherent; not removed at operation. (Patient in bad shape)	One was located in ileum 6 *in. from* colon. Wound admitted end of finger; *only one* perforation found; free fecal matter in cavity at operation.
High at first 104; fell quite rapidly to 95.6 before death.	Rose from 106 to 122; very weak.	Shallow and very rapid.	Distended; very rigid.	Obliterated.	No count	No	. .	Death in 25 hours.	Partial autopsy; abd. cavity contained free fecal *matter* and a large amount of turbid fluid; many ulcers with softened bases; one perforating; clot in femoral vein.	Thickened and adherent.	One found at autopsy; located 18 in. *from* ileocecal valve, large size.
No change . .	Rose from 100 to 150.	Rapid. . . .	Board-like; very tender.	Obliterated.	7,894 immed'tly after onset of sympts.	No	. .	Death in 30 hours.	*No autopsy.*	. . . .	. . . .
Rose, then fell; after operation fell to 97, then rose to 105.	Rose slightly before operation; markedly after, to 150.	No change . .	Partly distended; hard.	No marked change.	12,223 made just after onset of sympts.	Yes	2	Death in 10 days and 4 hrs. after perforation.	Complete autopsy; negative except in abdomen; purulent exudate; catgut suture given way with opening into bowel free. No attempt at repair.	Very adherent, much thickened; removed at operation.	One very small one found 2 in. from ileocecal valve.
Fell from 102 to 98 4.	*Almost imperceptible*: rose from 90 to 134.	Rapid and shallow; rose to 0.	Very rigid and tender.	Nearly *obliterated.*	No count	No	. .	Death in 55 minutes after perforation (approximately).	No autopsy.	. . . .	. . . .
No marked change.	Rose after operation from 84 to 116; no change before.	Rapid and shallow; thoracic.	Very rigid; moderately distended.	Not obliterated.	No count after perforation.	Yes	2¼	Recovery. .	. . . .	Very much inflamed; removed at operation.	Two small pin-point perforations found in ileum close to colon. 1 other large one (⅛ in. in diam.) 12 *in. from colon.*
No change before operation; after operation it rose to 101.4 then fell to 97; then vacillated.	No change before operation; after operation it varied between 130 & 148; was between 82 and 90 before perforation,	Rose in frequency; very shallow.	Moderately distended; very rigid; painful on pressure.	Partial obliteration.	No count	Yes	3¼	Death *in* 75 hrs. after perforation and 71½ hrs. after operation.	No autopsy.	Much congested and inflamed; removed at operation.	Two perforations found in ileum within 8 in. of colon; and one pin-hole perforation 15 in. above cecum closed by plastic lymph and adherent omentum and surrounded by o'd peritonitis. Free pus in peritoneal cavity.

may include the muscular layer and subserous tissue and leave only the peritoneal coat, through which infection may pass and cause a local peritonitis. Again, it may involve the whole thickness of the intestinal wall, and when the slough separates a complete perforation results, varying in size from a pin hole to an opening including a third or more of the circumference of the bowel. The escape of intestinal contents and infective germs may vary from a minute quantity to a sufficient amount to flood a great portion of the peritoneal cavity, depending usually on the size of the perforating ulcer. When the amount of leakage is great, general peritonitis is almost certain to appear in a very short time. When the opening is extremely small and the leakage slight, there may be only a localized peritonitis. In Case 11 of this series it was disclosed at operation that there had been an early pin-hole perforation with localized peritonitis to the extent of eroding the bowel of its glossy appearance throughout the affected area, and later two large ulcers in other locations had perforated, causing the symptoms which called for operation. The primary perforation had been closed by plastic matter and the adhesion of the neighboring omentum.

In certain cases in which the peritonitis is limited and limiting adhesions and walling off has occurred, abscesses may appear and require to be dealt with weeks and may be months afterward.

In form the perforation may be large and irregular, large and circular, small and cribriform, or it may be slit-like or oblong. The large circular ulcers are thought to be due to sloughing, the cribriform to ulceration, and the slit-like to mechanical traumatism. They are usually opposite the mesenteric attachment, though rarely they may open between the folds of the mesentery and cause a retroperitoneal abscess.

The perforation, as a rule, is single. In the five patients operated on, however, it was single in only two; in two of the cases there were two perforations, and in one three.

The site of perforations is usually found in the lower end of the ileum within from 12 to 18 inches of the cecum. Infrequently it may occur at any point along the digestive tract. It is not infrequently seen in the cecal region of the colon, including the appendix. Typhoid ulceration (rarely with perforation) may be found widely scattered along the digestive tract. A number of well-authenticated cases of typhoid ulceration of the esophagus and consequent stricture have been reported. Mitchell[5] reports eight cases. I have seen two cases of esophageal stricture following well-authenticated typhoid fever. In neither case could the stricture be charged to traumatism occurring in the course of the disease. In both cases it supervened before convalescence was established. The first case was in a young girl of 20, seen in consultation with Dr. F. J. Campbell of Fargo, N. D., about ten years ago. The stricture was located about the junction of the middle and upper thirds of the esophagus. Soon afterward the patient developed an empyema which so reduced her strength that she could not undergo an operation for the stricture, which still persisted, and she died a few weeks later. The second case, also in a young girl of about 20, was seen in consultation with Dr. John H. Dunn, of St. Cloud, about three years ago. The stricture was located at the junction of the middle and lower thirds. Later it was found necessary to do a gastrostomy to assist in overcoming the stricture. The patient, I am informed, made an excellent recovery.

SYMPTOMS.

Perforation in typhoid fever rarely occurs during the first week of the disease; the majority of cases are seen during the second and third weeks; it may occur, however, at any time during the latter part of the disease and convalescence. It is not infrequently seen during a relapse. The so-called preperforative symptoms are usually too vague and indefinite to be of much practical value to the average practitioner doing his work outside of hospitals.

Pain.—The earliest reliable symptom of perforation is pain, which usually is complained of in the cecal region; it may be referred, however, to the epigastric or pelvic regions. Occasionally pain is complained of in the genitals. The character of the pain may vary from a severe stabbing nature to more or less of a dull ache. Often its severity will cause the patient to cry out from his suffering. Patients who are irrational may fail to complain of pain. Occasionally with pin-hole perforations and limited peritonitis there may be no complaint of pain (Case 11).

Rigidity.—The next most important symptom is rigidity of the abdominal muscles, following quickly after the appearance of pain. This rigidity may be confined to the right internal and external obliques and the recti muscles, or the whole abdomen may be rigid.

Tenderness.—This is the next symptom of marked importance and is usually found in the cecal region, though it may also be adduced by pressure toward the epigastric or pelvic regions. All other symptoms are of varying importance.

Vomiting.—This is a symptom which may occur coincidentally with, or soon after, the appearance of pain. In some cases of typhoid fever, however, vomiting is a symptom that appears early and frequently throughout the acute stage of the disease. In such a case its value as a symptom of perforation would not be of marked importance.

Temperature.—In quite a number of cases of perforation there is often a remarkable drop of temperature, sometimes to near the normal point; with the advent of peritonitis the temperature again rises.

Pulse and Circulation.—The shock of perforation and peritonitis usually lowers the force of the pulse, while the rate is greatly increased, often from the usual rate of 90 to the unusual one of 130 or more. The skin of the face and hands may appear pallid and even somewhat cyanosed, and is frequently covered with profuse perspiration.

Respiration.—The respiration may be somewhat quickened, but is not likely to become costal in character until peritonitis is established.

Facial Expression.—In perforation the expression of the face is often marked by anxiety, suffering and general distress to an extent which might be called characteristic, almost Hippocratic in type.

Liver and Movable Dullness.—Liver dullness must have been carefully noted, from time to time, prior to perforation, to be a symptom of important value. Preexisting tympany may have reduced the area of liver dullness almost to the vanishing point before the admission of free gas into the peritoneal cavity. Movable dullness in the flanks is not likely to be present until peritonitis with effusion has appeared; hence it could only be a symptom of late value.

Blood.—Leucocytosis may be mentioned as a symptom of possible value. To be of practical utility, however, a leucocyte count would necessarily have to be made hourly as it (leucocytosis) would not appear until peritonitis had supervened, and to wait for this might be a waste of valuable time.

Summary of Symptoms.—Given a case of typhoid fever with clinical symptoms, pathognomonic of the disease, backed up by Widal's serodiagnosis, if possible, and presenting, after the first week, the three cardinal symptoms, pain, rigidity and tenderness in the cecal region, supplemented by some of the less valuable symptoms, and it will not only be expedient, but reasonable to diagnose intestinal perforation.

Osler's schema[1] for the observation of perforation symptoms should always be at hand for the observance of internes and nurses.

DIFFERENTIAL DIAGNOSIS.

It may be necessary frequently to differentiate between intestinal perforation of typhoid fever and acute appendicitis, with or without perforation; from intestinal hemorrhage of typhoid; from typhoidal peritonitis without perforation; from peritonitis due to tubal disease; from gangrene or perforation of the gall bladder; from perforating gastric and duodenal ulcers; and from suppurating mesenteric glands.

Time will not permit me to consider the symptoms, conditions and features that might be adduced in differentiating each of the above. Cumston,[6] of Boston, in an extended review, terminates his article by saying: "In closing, I think I can sum up in a word all that has been said in this paper, namely, that every time an appendicitis exists, either alone or associated with typhoid fever, an operation is indicated." I believe the same conclusion, namely, operation, would hold good for all the other conditions, with the possible exception of intestinal hemorrhage, and even this has been surgically treated with reported success.

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[5] Johns Hopkins Hosp. Rep., vol. viii.

PROGNOSIS.

The prognosis in intestinal perforation of typhoid, without operation, is almost hopeless. The chances for recovery do not exceed 5 per cent., under the most sanguine expectations. With operation, the prognosis will depend, in a large measure, on early surgical interference, the extent of the peritonitis, the physical condition of the patient, and the absence of secondary perforation and intestinal hemorrhage. Some writers claim that there should be 50 per cent. of recoveries if the operation is undertaken within the first three hours. With the marked improvements in the treatment of peritonitis, these hopes would not seem to be too sanguine. At Johns Hopkins Hospital 30 per cent. of recoveries were obtained from all operations. In my fatal operative cases, one patient who was operated on 19 hours after symptoms of perforation lived for 55 hours and succumbed to general peritonitis; another lived ten days.

TREATMENT.

All patients with typhoid fever who have suffered intestinal perforation, immediately on diagnosis, should be treated by laparotomy, and the only deterrent to operation should be a moribund condition of the patient. Wilson has well said: "The courage to perform it (operation) will come of the knowledge that the only alternative is the patient's death."

Anesthetic.—I have used local anesthesia, from cocain, and general anesthesia, with ether, and my preference is decidedly for the latter.

The Incision.—The incision that I have found the most useful and satisfactory is the one made through the right rectus muscle and opposite the cecal region. After gaining entrance to the peritoneal cavity the appendix and cecum—even the ascending colon—should be thoroughly examined; next, the lower portion of the ileum, beginning at the cecum. When the perforation is found, it is best to close it with a suture of linen or silk; if small, it can be readily closed with a purse-string suture; if large, Lembert's, Halstead's mattress, or Cushing's right-angled sutures may be used; in some instances, it will be well to strengthen with a second tier. There is a difference of opinion among writers as to whether the opening should be closed in the longitudinal or transverse direction of the bowel. Probably this is a matter of no particular moment, unless the opening is so large that the necessary suturing may diminish the lumen of the bowel to dangerously narrow proportions, in which case the question of resection may have to be considered. If there are other ulcers presenting a perforating appearance, it would be wise to place reinforcing sutures to prevent future accidents.

If the appendix is inflamed, as it frequently is, it should be removed, even though perforation is not present. In the last three cases it was found decidedly inflamed and in each instance it was removed.

The toilet of the peritoneum is important and probably would be the next step in the progress of the operation. If there has been a considerable escape of fecal matter, irrigation with normal salt solution would be of value. If fecal matter is not present (and the peritonitis is confined to the region of perforation) or has gravitated to the pelvis, the effusion fluid may be withdrawn by a suction syringe or removed by careful sponging. Tubular drainage should be introduced to the bottom of the pelvis, probably through a stab wound on the left, as well as through the operation wound on the right. This should be supplemented with the necessary amount of Penrose and gauze drainage. At this time the sutured portion of the bowel should be brought opposite the operation wound and maintained there by gauze or by a few stitches of ten-day catgut. This position of the bowel will be of decided advantage in case the suturing should yield and leakage result. Such portion of the wound unoccupied by drainage may be closed with through-and-through sutures. After the application of a voluminous dressing and the return of the patient to bed, he should at once, or as quickly as possible, be placed in Fowler's position to allow gravitation of effusion fluid into the pelvis, where the drainage has been placed. The after-treatment will consist of the necessary surgical attention and such general typhoid treatment as may be applicable.

If positive symptoms of postoperative perforation occur, one should not hesitate, if the patient's condition will permit, to reopen the wound or to perform a new laparotomy and deal with the conditions found. Cushing[7] reports a case with recovery in a boy of 9 years, in whom laparotomy was performed three different times: First, for perforation; second, for supposed perforation, and, third, for acute intestinal obstruction, when a new perforation was also found.

I am greatly indebted to Dr. W. H. Buskirk for his valuable and painstaking assistance in the examination and selection of data from our hospital and clinical records for the purposes of this article.

Case 1.—Male, aged 26, was admitted to the hospital July 29, 1890; diagnosis typhoid fever. Temperature, 102.8; pulse, 80. No history is recorded of condition prior to admission. The course of the disease was moderately severe throughout, temperature running from 101.2 to 102 in the morning and from 103 to 104.8 in the evening; pulse averaging 85 and never going above 98. There was some diarrhea. The patient perspired freely at times.

August 9: At 7:15 a. m. temperature was 102.2; pulse, 92. Patient was suffering severe pain in abdomen. At 10 p. m. temperature was 101; pulse, 104. There was persistent vomiting of dark green material, with undigested milk.

August 10: At 7 a. m. temperature was 97.2; pulse, 100; patient still in great pain. At 4 p. m. temperature was 104; pulse, 130; patient covered with cold sweat. At 6:30 p. m. temperature was 101.4; pulse, 140; still in cold sweat.

August 11: Patient gradually sank and died at 8:45 p. m. Perforation occurred on the fourteenth day after admission, and death in from 48 to 50 hours after perforation. No autopsy.

Case 2.—Male, aged 30, was admitted to hospital Feb. 4, 1891, having been sick one week; diagnosis typhoid fever. He had a moderate run of fever, with temperature running from 100.8 to 103.2, pulse averaging about 90. There was no diarrhea or hemorrhage; his general condition was good.

March 4: At 8 a. m. there was some pain in the abdomen; two hemorrhages occurred from the nose; there was vomiting during the late afternoon. Temperature was 100 in morning, rising to 103 at 1 p. m. and dropping to 102 at 4 p. m. Pulse was 98 at 8 a. m., 100 at 1 p. m., and 112 at 4 p. m. The symptoms grew rapidly worse and perforation was diagnosed. At 9 p. m. laparotomy was performed; median incision was made. Fecal matter was found scattered throughout the peritoneal cavity. A perforation, irregular in shape and nearly three-quarters of an inch in diameter, was found in the ileum about 15 inches from the cecum; an attempt at suturing followed, but was unsuccessful because of the friable and softened condition of the intestinal walls. Patient being in collapse, only drainage was inserted in wound.

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[6] "The Clinical Aspect and Differential Diagnosis of Appendicitis and Typhoid Fever," Amer. Jour. of the Med. Sciences, May, 1905.

[7] Johns Hopkins Hosp. Rep., vol. viii.

He was returned to bed. His condition grew steadily worse and he died at 4 a. m. March 5, 12 hours (estimated) after perforation; on the sixteenth day of the disease. Partial autopsy revealed general peritonitis and a second perforation of the bowel 6 inches above the one found at operation.

Case 3.—Male, aged 43, was admitted to hospital Oct. 17, 1891. He had been sick 10 days; diagnosis, typhoid fever. His condition was not bad; temperature varied from 101 to 102, and pulse from 80 to 92 on day of admission.

October 18: At 2:15 a. m. he had a chill; temperature, 103.2. At 3 a. m. there was severe pain in the abdomen, continuing during day. At 4 a. m. temperature was 104.6, and pulse 98. At 8 p. m. temperature was 104, and pulse 106.

October 19: At 4 a. m. temperature was 102.4, and pulse 104. At 8 p. m. temperature was 100, and pulse 112. The patient was feeble; he vomited several times during the day and sweated profusely; he had violent hiccough. The pain continued severe during day.

October 20: His condition grew worse during the early part of the night. At 4 p. m. temperature was 100.2, and pulse 124, and was growing more feeble and rapid. At 9:30 a. m. there was vomiting. At 9:38 a. m. death occurred. Perforation occurred on the eleventh day of the disease; death, 55 hours later. There was no operation. No autopsy.

Case 4.—Male, aged 28, was admitted to the hospital Aug. 23, 1896. He had been sick seven days; diagnosis, typhoid fever. He had a severe run of fever, with temperature from 102 in the morning to 104.8 and 105 in the evening. Pulse from 106 to 126. There was slight diarrhea, some vomiting, and mental apathy with some delirium.

September 2: Patient had been in marked typhoid state and delirious; the abdomen was distended. At 7:30 p. m. respiration was very irregular, and there were involuntary bowel movements. Temperature was 101.2; pulse, 120, and respiration 24. At midnight the axillary temperature was 104; pulse, 132, and respiration, 32.

September 3: Temperature varied from 103 at 4 a. m. to 104 at 4 p. m., pulse ranged from 120 to 130, and respiration from 26 to 30. The patient was delirious, and the abdomen was distended.

September 4: At 4 a. m. the temperature was 102, pulse 120, and respiration 34. At 4 p. m. temperature was 103.2, pulse 144, and respiration 44. Symptoms of previous day were more marked.

September 5: All symptoms were increased in severity, and the patient died at 3:35 a. m. There was no operation. A partial autopsy showed abdominal ulcers, one of which had perforated. There was also considerable peritonitis.

Case 5.—Male, aged 25, was admitted to hospital Oct. 14, 1897. He had been sick two weeks; diagnosis, typhoid fever. The fever ran a light course, the temperature averaging 103.6 in the evening and pulse not over 80.

October 23: There was hemorrhage from the bowel, but no symptoms of collapse; temperature fell from 101.8 to 98.8, and pulse from 76 to 60. The patient did well for several days after the hemorrhage, temperature and pulse running as before.

October 30: At 5:30 p. m. there was a sharp pain in the abdomen during passage of stool; respiration increased; face became pinched in appearance. The patient lay in bed with his knees drawn up. The temperature fell at first and then rose. Perforation was thought of, but the surgeon was not warned until next morning.

October 31: Operation was performed at 11 a. m., 19 hours after first symptoms of perforation. A median incision was made below the umbilicus. On opening the abdomen a large amount of gas and fecal matter escaped through the wound. The intestine was covered with lymph deposit, and there were numerous adhesions. In the ileum, about 6 inches from the colon, a large perforation was found, which would admit the end of the fingers; the edges were well defined. Other unperforated ulcers were apparent through the bowel wall. The peritoneal cavity was sponged dry and flushed with normal salt solution; tubal drainage was inserted and the wound partly closed.

November 1: The condition became critical, and there was some vomiting. At 4 a. m. the temperature was 101, pulse 134. At 4 p. m. temperature was 101, pulse 130 and weak.

November 2: At 4 a. m. the temperature was 101, and pulse 144. At 4 p. m. temperature was 104.2, and pulse 160. The patient grew rapidly worse and died at 8:30 p. m.

Autopsy showed very severe general peritonitis, with extensive adhesions. Suturing in the bowel was intact. Perforation occurred on the thirtieth day of the disease; death occurred 75 hours after perforation and 56 hours after operation.

Case 6.—Male, aged 37, was admitted to hospital Oct. 22, 1898. He had been sick ten days; diagnosis, typhoid fever. At the time of admission there was tympanites and some vomiting; rose spots were also present. The case ran a light course after admission to hospital until convalescence began. The man had a relapse, beginning November 4, but it was not severe. On November 9 he developed a phlebitis.

November 12: During the day the temperature ran high and the pulse increased. At 4 a. m. the temperature was 103.6 and pulse 106. At 4 p. m. the temperature was 104, pulse 108. At 9:30 p. m. there was sudden acute abdominal pain; the patient cried out in agony; the abdomen became rigid; extremities and face were cold and clammy; pulse was rapid, feeble and fluttering. Pain was referred to genitals.

November 13: At 4 a. m. the temperature was 102 and pulse 122. At 4 p. m. temperature was 97, pulse 122. There was severe pain throughout the day, with vomiting, delirium and cold sweat. Temperature was subnormal all day, running as low as 95.6. The condition grew worse, and the patient died at 10:30 p. m.

No operation was performed, because of the severe phlebitis and the low condition of the patient. Autopsy showed perforation of ileum 18 inches from the ileocecal valve, with free fecal matter and turbid fluid in the abdominal cavity. There were numerous ulcers with softened bases, one black and almost perforated, and a clot in the femoral vein extending into the pelvis.

Case 7.—Male, aged 24, was admitted to the hospital Sept. 23, 1902. He had been sick two weeks; diagnosis, typhoid fever. Rose spots were present on admission. The case ran a severe course after admission, temperature running from 102.6, with pulse 96, in the morning to temperature of 105 and pulse 116 in the evening.

September 29: At 7 a. m. temperature was 102 and pulse 100. At 8 p. m. temperature was 103.2 and pulse 120. The condition of the patient was the same as on former days until 8 p. m., when there was hemorrhage from bowels.

September 30: At 4 a. m. the temperature was 101 and pulse 100. At 3 p. m. temperature was 101 and pulse 144. Blood count showed 7,894 leucocytes. The condition was serious; pulse was rapid and weak. He did not complain of pain; abdomen was rather rigid and somewhat tender on pressure; liver dullness was diminished.

October 1: At 8 a. m. the axillary temperature was 98 and pulse 120. At 8 p. m. the axillary temperature was 101.4 and pulse 150. He vomited during the day. Death occurred at 11:30 p. m. Perforation occurred on the nineteenth day of the disease. No operation (no reason given in clinical history). Death occurred in about 30 hours after perforation. No autopsy.

Case 8.—Male, aged 20, was admitted to the hospital Jan. 23, 1903. He had been sick one week with prodromal symptoms of typhoid; diagnosis, typhoid fever. The general condition on admission was rather bad; the abdomen was distended and there was pronounced typhoid mental condition. At 7 a. m. the temperature was 103 and pulse 72. At 8 p. m. the temperature was 104 and pulse 94. The patient had two hemorrhages on January 24, one on January 25, another on

January 26; also a slight chill, and another hemorrhage on January 27. During this time the temperature continued high, and pulse ran from 78 to 84. There was no diarrhea.

January 31: The general condition was about the same. At 8:30 p. m. he was taken with sudden severe pain in the abdomen in the right iliac region. He had a chill at 9 p. m. The abdomen became distended and there was general abdominal tenderness more marked at McBurney's point. The pulse was rapid and weak, and the facial expression anxious and drawn. At 10:30 p. m. (diagnosis of perforation having been made) operation was performed under cocain until bowels were exposed; then ether was given. The incision was made through the right rectus. The bowels were much distended, and there were numerous adhesions around the appendix, which was somewhat thickened and congested. The appendix was ligated and the stump turned in by means of formalized catgut suture. A small pinhole perforation was found in the colon within one inch of the appendix; it was closed with Lembert sutures of silk. An ulcer, with gangrenous look and threatening perforation, was found 4 inches from the ileocecal valve; it was reinforced with suture of silk. There were no signs of peritonitis and no increased amount of fluid in the peritoneal cavity. Only local drainage was used, and the wound was closed up to drain. For several days after operation the patient's condition was quite good.

February 3: At 4 a. m. the axillary temperature was 98.8 and pulse 80. At 8 p. m. the axillary temperature was 98.6 and pulse 92. Some distension was present and there was considerable vomiting on this day.

February 7: The patient's condition was serious. At 4 a. m. the temperature was 100.8 and pulse 120. At 8 p. m. the axillary temperature was 104.6 and pulse 128 and weak. The abdomen was distended and tender; there was no infection of the abdominal wound.

February 8: Condition was still serious. Temperature and pulse were about the same as day before. He had blood in stools twice on this day; there was not much reaction of temperature and pulse. At 4 a. m. temperature was 103.8 and pulse 130. At 8 p. m. temperature was 104 and pulse 130.

February 9: Patient's condition was much worse, temperature being uniformly high and pulse rapid and weak.

February 10: Temperature reached 105 and axillary pulse 150. Patient died at 12:20 a. m. February 11.

Complete autopsy: Examination was negative, except in the abdomen. The bowels were found covered with purulent exudate, but not distended; the catgut suture which had closed the stump of the appendix had been absorbed, and, as there were no attempts at repair, the stump was open. The perforation and ulcer, which had been reinforced with silk sutures, had held firmly. The peritoneal exudate was much more marked in the right iliac fossa than elsewhere. There were no fresh perforations. Perforation occurred on the forty-eighth day of the disease and death in ten days and four hours after operation. A mistake was made in this case in using catgut instead of silk for closing the appendiceal stump, and later in not reopening the wound for exploration.

Case 9.—Male, aged 30, was admitted to the hospital Oct. 28, 1904. He had been sick ten days; diagnosis, typhoid fever. He had nose bleed, headache and other characteristic symptoms of the disease, which ran a severe course, the temperature ranging from 102, with a pulse of 96 in the morning to 104, with pulse of 104, in the evening. There was slight vomiting, with some delirium. There was no tympanites until November 1.

November 24: Axillary temperature was 98.4 and pulse 132 at 7 a. m.; respirations, 40. Patient was sweating. At 8:45 a. m. there was sudden severe abdominal pain, occurring in paroxysms; the expression was anxious. The patient was very restless; his lips were pallid; his extremities cold and covered with cold sweat. The abdomen was rigid and extremely tender, the tenderness being most marked in the right iliac fossa. The pulse was rapid, thready and almost imperceptible. At 9:40 a. m. death occurred.

Perforation occurred on the seventeenth day of the disease; death after perforation (estimated) in 55 minutes. No operation. No autopsy.

Case 10.—Male, aged 24, was admitted to hospital Dec. 6, 1904. He was admitted primarily for injury, but complained of having been sick for two or three days. He developed a light run of typhoid; rose spots were present; temperature ran from 100 to 102 and pulse was practically normal; he complained early in the disease of some pain in the right fossa. Blood count, December 9, leucocytes were 10,186, and on December 15, 11,457. He had a typical convalescence, beginning December 24. Temperature was normal all day December 25. Diet was gradually extended. The patient was up and about.

January 17: He had a well-marked relapse, with all symptoms much more severe than during previous illness.

January 19: Temperature was 100.8, with pulse 104 in the morning. Temperature was 100.8, with pulse 110, in the evening. The condition was about the same on January 25.

January 26: Respirations ranged from 20 to 24 and were shallow; there was no delirium, no chills, no diarrhea. This condition continued without change until January 27.

January 27: At 7:30 a. m. the patient was taken with severe abdominal pain, paroxysmal in type and of a colicky nature. His face was drawn and his expression anxious; the lips were slightly pallid; the abdomen was board-like, and there was general diffuse tenderness, most marked in the right iliac fossa. Liver dullness was not obliterated. Perforation was diagnosed, and at 10:15 the patient was taken to the operating room.

Operation.—A lateral incision was made through the right rectus. The appendix was very much inflamed and was removed; the stump was closed with a purse-string suture of silk. The appendix was not gangrenous or perforated. The ileum was examined; two small pin-point perforations were found close to the cecum and were closed with purse-string sutures of silk. Two ulcers were found near the same area with their bases much inflamed; they were reinforced with continuous sutures of silk. About 12 inches from the colon a large perforation was found with well-marked borders and a punched out appearance; it was one-eighth of an inch in diameter. It was turned in with purse-string suture of silk. General peritonitis present; the abdominal cavity was filled with a seropurulent fluid. A tube and three Penrose drains were inserted to the bottom of the pelvis. The upper angle of the wound was closed with three interrupted sutures of silkworm gut. The patient stood the anesthetic well and was placed in bed in Fowler's position. During the evening he received a hypodermoclysis of physiologic salt solution and heart stimulants.

January 28: His condition was fairly good; temperature was 99.2 and pulse 98 in the morning; in the evening the temperature was 101.2 and pulse 116. There was profuse serous drainage from the wound; the abdomen was slightly distended. There was a small bowel movement.

January 29: His condition was fairly good; temperature was 98 and pulse 88 in the morning. Temperature was 99.8 and pulse 100 in the evening. The Penrose drains were removed and glass drains inserted. The discharge became more purulent; there was some tympanites and some flatus was expelled.

From now on improvement continued; there was some infection of the wound, which promptly cleared up. He did not have much temperature after the operation. Diet was extended on February 18. He was sitting up in bed on February 22, and was up and about on February 28. He had a slight relapse, not severe, on February 28, which only lasted eight days. Improvement in all respects followed. He was discharged, cured, on April 12, 1905. Perforation occurred on the fifty-second day of the disease and the tenth day of the relapse. He was operated on 2 hours and 45 minutes after perforation occurred.

Case 11.—Male, aged 43, was admitted to the hospital Feb. 16, 1905, on the tenth day of the disease. He had a light run of typhoid; there was enlarged spleen, and rose spots were present. Temperature ranged from 100.8 in the morning to 101.6 in the evening; the pulse varied from 80 in the morning to 88 in the evening. There was considerable tympanites, but no diarrhea. There was no delirium, but the mental condition was dull throughout.

February 21: His condition in the morning was similar to that of the last few days, but at noon he was taken with severe abdominal pain; there were symptoms of collapse; the pulse became more rapid and weak; the patient was covered with profuse cold sweat; face was pinched; lips were pallid; abdomen was rigid and very painful on pressure; there was partial obliteration of the liver dullness. At 12:30 he had a chill; at 3:15 he was operated on. A lateral incision was made through the right rectus. On opening the abdomen a large amount of pus was found between coils of intestine; the appendix was inflamed and congested and was removed. Two perforations were found within 8 inches of the colon; they were closed with a purse-string suture of linen. About seven inches above this was found a small pin-hole perforation which had been closed by plastic matter and adhesion of the neighboring omentum. All the bowel in this area showed signs of old peritonitis, which must have existed for some days, as the surface of the intestine was eroded and roughened. Pus and other effusions were wiped out carefully with moist gauze, and the peritoneal cavity made apparently clean. One rubber tube drain was inserted to the bottom of the pelvis and five Penrose drains were inserted in various directions. The upper angle of the wound was closed with through-and-through sutures of silkworm gut. The patient was placed in Fowler's position after return to bed. During the afternoon his condition was very critical. At 7 p. m. his temperature was 101.4, pulse 130 and weak. Stimulants were administered, such as enemata of coffee, whisky and normal salt solution, by hypodermoclysis. The wound was dressed in the evening; there was profuse drainage.

February 22: The condition was not so good; at 7 a. m. the temperature was 98 and pulse 134; at 7 p. m. temperature was 98.6 and pulse 140. Some gas was expelled following an enema of turpentine and asafetida. There was profuse seropurulent discharge from drains.

February 23: The condition was worse. At 7 a. m. the temperature by axilla was 102 and pulse 148; at 7 p. m. the temperature by axilla was 100 and pulse 134. He gradually grew weaker. Some gas was expelled following an enema; at 6 p. m. a large amount of blood was passed in the stool.

February 24: Condition was still very bad. At 12:45 a. m. there was more blood in stools; at 2:15 a. m. there was an extensive hemorrhage from bowels; at 7 a. m., axillary temperature was 102, pulse 148 and almost imperceptible. Death at 2:45 p. m.

Perforation occurred on the fifteenth day of the disease; death occurred 74 hours and 45 minutes after perforation and 71 hours and 30 minutes after operation. No autopsy.

THE IMPORTANCE OF THE FIRST STEPS IN ARTIFICIAL FEEDING OF INFANTS, WITH PRACTICAL POINTS ON THE USE OF TOP MILK MIXTURES.

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There is probably no cause of chronic digestive disturbances in infancy which can be more easily avoided than improper methods of artificial feeding during the first few months of the infant's life, for this is the time when the average infant receives little, if any, of the physician's attention. Most of the ills of this period are ascribed to immaturity or to innate depravity, and the newborn one is left to work out his salvation with the aid of the attendant nurse and family.

Holt has repeatedly affirmed that under favorable conditions, when he can have entire charge of the infant's feeding from the start, it is exceptional for him to encounter any real difficulty in carrying out the infant's nutrition. This, he thinks, is due as much to the first steps as to his constant subsequent management of the case. Even a brief survey of the subject will reveal certain undeniable facts. The nutrition of the infant, as Chapin points out, should be divided into the preplacental, the placental and the mammary stages, during all of which the infant should be regarded as attached to the mother. At the beginning of the mammary stage the infant's stomach is only rudimentary. The newborn infant is undoubtedly best adapted to its own mother's milk. The nearest approach to this is the milk of another woman, but when we attempt to make use of cow's milk we are at once dealing with a foreign substance, and no amount of modification will make it anything else. This can be well demonstrated by reference to a table published by Heubner.[1]

Time by which Weight is doubled.		Analyses of Milk.			
	Days.	Proteid.	Ash.	Lime.	Phosphoric Acid.
Human......	180	1.0	0.2	0.032	0.047
Horse	60	2.0	0.4	0.124	0.131
Calf	47	3.5	0.7	0.160	0.197
Goat	19	4.3	0.8	0.210	0.322
Pig	18	5.9	..	....	....
Sheep	10	6.5	0.9	0.272	0.412
Cat	9.0	7.0	1.0	....	....
Dog	8.0	7.3	1.3	0.43	0.493
Rabbit	7	10.4	2.4	0.891	0.996

It would seem *that the rapidity of growth is in direct* proportion to the amount of proteid in the milk, and that the natural process of growth in the human species is very slow. The coincidence of a low proteid and a slow growth can mean only that the infant's powers of digestion are unsuited to a stronger, tougher nutriment, and are but slowly developed. Additional proof that growth in the infant is intended to be slow is found in the fact that the proteid of the mother's milk, low as it is, is yet sufficient for the needs of the infant, not only during the whole of the period, during which the weight is doubled—a period varying from four to seven months—but also for a longer time until weaning may be demanded.

The physical characteristics of human milk and cow's milk, when they are introduced into the infant's stomach, have been so often stated as to make repetition unnecessary. No one can overlook the fact that the mechanical action of the curd of cow's milk, apart from the complicated question of its chemical properties, is fundamentally different from the action of the curd of human milk, and, as Chapin well expresses it, this points strongly to the fact that the stomach of each species depends largely for its development on the stimulus afforded by the proteid content of its own proper milk. An absolute liquid diet offers no such stimulus, but in the case of the infant the soft flocculent curd is evidently sufficient for the purpose, which, in the case of the calf, demands coarser excitation for its accomplishment. Of the so-called "vital characteristics" of milk by which we understand that each milk shall be best suited to the young for which Nature intended it, too little is definitely known to make discussion profitable. Statistics are so overwhelming in proof of the fact that the breast-fed infant far surpasses the artificially fed infant in expectancy of life that further comment is unnecessary. The causes for the high mortality of artificially fed infants are undoubtedly the disturbances which may properly be classified as gastro-intestinal, originating in the inability of the infant to digest its food. It is impossible to compute the part played by bacteria in this high mortality, but the underlying cause has probably much to do with physiologicochemical conditions. Of these ills innumerable pages have been written; and since Rotch first drew attention to the science of percentage feeding it would seem that, from the mechanical standpoint, we have almost exhausted the possibilities of the modification of milk to suit the varying powers of the infant's digestion. Sufficient stress, however, has not been laid on the importance of the gradual education of the newborn infant's digestive apparatus to accustom it to the foreign material which it is so often called on to receive.

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[1] Ziet. für Diat. u. Physik. Therapie, vol. iii, p. 1, 1899. Abst. from Archives of Pediatrics.

This problem of the artificial nourishment of the infant often confronts us at the start; or the maternal secretion may suffice for a few days or weeks, but soon has to be aided and, later, substituted, by some handmade mixture. At any period in infancy such substitution of an unnatural for a natural food requires a gradation in the steps of the process. Such a gradation is exceedingly important in the case of the newborn infant. Let us take a concrete example of what often happens in a case in which the nurse is untrained. The mother's supply of milk fails within the first week of the puerperium. The nurse on her own initiative adopts her favorite method of feeding, usually cow's milk and water in equal parts; or perhaps a mixture made with condensed milk. In the haste of the moment and the security engendered by the fact that millions of infants have survived haphazard methods of feeding, the physician may at once dismiss the subject from his mind. Provided there are no undeniably bad results, these feedings are continued at the discretion of the nurse or mother. If this discretion be tempered with common sense or useful experience, all may be well, or the infant may belong to the fortunate class which can digest anything. Frequently, however, the sequence of events will be somewhat as follows: The infant soon begins to exhibit signs of indigestion and is designated by the nurse as a colicky baby. The frequent use of carminatives, with or without opium; mainly, however, the fact that the infant sleeps most of its first days and therefore takes little of the indigestible mixture, will probably tide the case safely over the two or three weeks usually allotted to the puerperium. The baby has grown, the mother is satisfied, the physician is busy and unsuspecting, and the nurse departs more than ever convinced of her ability to feed the newborn. In the absence of any training to the contrary, she is certainly not blameworthy.

Within a few weeks or less the signs of disturbed digestion become too marked to be overlooked. Then will begin the endless succession of infant foods, or the physician will be called. Careful questioning at this time will elicit the fact that the departure from the normal condition of digestion has been present almost from the start. The disturbances may have been ascribed to various recent exciting causes, while the underlying predisposing cause of an unsuitable diet at the outset has been overlooked. Depending on the length of time the mother has persisted in her efforts to feed the child will be its condition when the physician's advice is first asked. There is apt to be fretfulness, if not actual crying. The child is restless, constantly craving, and usually constantly receiving, its nourishment. The degree of disturbance as evidenced by the gastrointestinal symptoms varies, but the stools almost invariably give evidence of indigestion, if not of actual enteritis. There is more or less atrophy, the muscles are flabby, and, in a very large proportion of protracted cases, the signs of rickets are present in a well-marked degree.

The outcome in such a case is uncertain and will depend largely on the child's surroundings and the care it receives. The infant is doubly exposed to the danger of progressive atrophy, of intercurrent disease, especially bronchopneumonia, the acute gastroenteric disorders arising from infected milk or other unsuitable dietary, and the exhaustion incident to the heated term which predisposes to these disorders. Even with the most careful and painstaking treatment, it may be weeks or months before the stools present a normal appearance.

Such types are constantly seen in dispensary practice, although the number among the more fortunate classes is by no means small. The ultimate fate of many of these infants who recover after a protracted attack of indigestion is open to conjecture, as they often pass out of the experience of the individual physician. An interesting field for statistics here presents itself. It is reasonable to suppose that they are at least handicapped in the race of life, even though all traces of their former ill health shall have disappeared within a few years.

The disadvantages of such protracted attacks of indigestion are obvious, but the difficulty of correcting them is equally so. Apart from cases of congenital disease or the ills attendant on the pauperism of many of the city's poor, many of these difficulties may be avoided by proper care at the start of the infant's feeding. It may also be well to call attention to the fact that by no means all the maternal milk secreted is fit for the infants who receive it. Analyses of specimens of milk in many cases in which the maternal supply fails in the first few months of the infant's life will show disturbances in the normal proportions of the ingredients of the milk, which may easily prove to be the starting point of digestive disturbances even before artificial feeding has been attempted. Persistence of indigestion in the case of an infant fed solely on breast milk, therefore, should demand an investigation of that milk.

As is often the case, it is easier to point the moral than to explain how the necessity for it may be avoided. The difficulty for the general practitioner lies in (*a*) the time it takes to instruct the mother, (*b*) the failure of the mother to co-operate, and (*c*) the difficulty in obtaining milk of the necessary purity and of known strength. For the fortunate few who can command laboratory milk, these objections are reduced to a minimum. While there are many useful formulæ for the preparation of milk mixtures they are difficult to memorize or to apply. Into the present discussion these objections do not enter, as the use of scientifically accurate percentage modifications is demanded chiefly as a curative, not necessarily as a preventive measure. To take up, first, the question of the milk supply, it may be stated that unless cream of known composition and of unimpeachable purity can be obtained, nothing can exceed the usefulness of top milk, i. e., the milk and cream which are removed from the top of a quart bottle of milk on which the cream has thoroughly "raised." If it is possible to use certified milk of a definite fat percentage, excellent results can be obtained in the vast majority of cases. The expense of a single quart of certified milk daily, an amount sufficient during the greater part of infancy, is not so prohibitive as it often seems. So much of the ordinary market milk is now provided in jars bottled at the dairy under fairly good conditions of hygiene that, even without the aid of pasteurization, good that of the last few days, but at noon he was taken with severe abdominal pain; there were symptoms of collapse; the pulse became more rapid and weak; the patient was covered with profuse cold sweat; face was pinched; lips were pallid; abdomen was rigid and very painful on pressure; there was partial obliteration of the liver dullness. At 12:30 he had a chill; at 3:15 he was operated on. A lateral incision was made through the right rectus. On opening the abdomen a large amount of pus was found between coils of intestine; the appendix was inflamed and congested and was removed. Two perforations were found within 8 inches of the colon; they were closed with a purse-string suture of linen. About seven inches above this was found a small pin-hole perforation which had been closed by plastic matter and adhesion of the neighboring omentum. All the bowel in this area showed signs of old peritonitis, which must have existed for some days, as the surface of the intestine was eroded and roughened. Pus and other effusions were wiped out carefully with moist gauze, and the peritoneal cavity made apparently clean. One rubber tube drain was inserted to the bottom of the pelvis and five Penrose drains were inserted in various directions. The upper angle of the wound was closed with through-and-through sutures of silkworm gut. The patient was placed in Fowler's position after return to bed. During the afternoon his condition was very critical. At 7 p. m. his temperature was 101.4, pulse 130 and weak. Stimulants were administered, such as enemata of coffee, whisky and normal salt solution, by hypodermoclysis. The wound was dressed in the evening; there was profuse drainage.

February 22: The condition was not so good; at 7 a. m. the temperature was 98 and pulse 134; at 7 p. m. temperature was 98.6 and pulse 140. Some gas was expelled following an enema of turpentine and asafetida. There was profuse seropurulent discharge from drains.

February 23: The condition was worse. At 7 a. m. the temperature by axilla was 102 and pulse 148; at 7 p. m. the temperature by axilla was 100 and pulse 134. He gradually grew weaker. Some gas was expelled following an enema; at 6 p. m. a large amount of blood was passed in the stool.

February 24: Condition was still very bad. At 12:45 a. m. there was more blood in stools; at 2:15 a. m. there was an extensive hemorrhage from bowels; at 7 a. m., axillary temperature was 102, pulse 148 and almost imperceptible. Death at 2:45 p. m.

Perforation occurred on the fifteenth day of the disease; death occurred 74 hours and 45 minutes after perforation and 71 hours and 30 minutes after operation. No autopsy.

THE IMPORTANCE OF THE FIRST STEPS IN ARTIFICIAL FEEDING OF INFANTS, WITH PRACTICAL POINTS ON THE USE OF TOP MILK MIXTURES.

J. C. GITTINGS, M.D.
PHILADELPHIA.

There is probably no cause of chronic digestive disturbances in infancy which can be more easily avoided than improper methods of artificial feeding during the first few months of the infant's life, for this is the time when the average infant receives little, if any, of the physician's attention. Most of the ills of this period are ascribed to immaturity or to innate depravity, and the newborn one is left to work out his salvation with the aid of the attendant nurse and family.

Holt has repeatedly affirmed that under favorable conditions, when he can have entire charge of the infant's feeding from the start, it is exceptional for him to encounter any real difficulty in carrying out the infant's nutrition. This, he thinks, is due as much to the first steps as to his constant subsequent management of the case. Even a brief survey of the subject will reveal certain undeniable facts. The nutrition of the infant, as Chapin points out, should be divided into the preplacental, the placental and the mammary stages, during all of which the infant should be regarded as attached to the mother. At the beginning of the mammary stage the infant's stomach is only rudimentary. The newborn infant is undoubtedly best adapted to its own mother's milk. The nearest approach to this is the milk of another woman, but when we attempt to make use of cow's milk we are at once dealing with a foreign substance, and no amount of modification will make it anything else. This can be well demonstrated by reference to a table published by Heubner.[1]

Time by which Weight is doubled.		Analyses of Milk.			
	Days.	Proteid.	Ash.	Lime.	Phosphoric Acid.
Human......	180	1.0	0.2	0.032	0.047
Horse	60	2.0	0.4	0.124	0.131
Calf	47	3.5	0.7	0.160	0.197
Goat	19	4.3	0.8	0.210	0.322
Pig	18	5.9	..	....	....
Sheep	10	6.5	0.9	0.272	0.412
Cat	9.0	7.0	1.0	....	....
Dog	8.0	7.3	1.3	0.43	0.493
Rabbit	7	10.4.	2.4	0.891	0.996

It would seem that the rapidity of growth is in direct proportion to the amount of proteid in the milk, and that the natural process of growth in the human species is very slow. The coincidence of a low proteid and a slow growth can mean only that the infant's powers of digestion are unsuited to a stronger, tougher nutriment, and are but slowly developed. Additional proof that growth in the infant is intended to be slow is found in the fact that the proteid of the mother's milk, low as it is, is yet sufficient for the needs of the infant, not only during the whole of the period, during which the weight is doubled—a period varying from four to seven months—but also for a longer time until weaning may be demanded.

The physical characteristics of human milk and cow's milk, when they are introduced into the infant's stomach, have been so often stated as to make repetition unnecessary. No one can overlook the fact that the mechanical action of the curd of cow's milk, apart from the complicated question of its chemical properties, is fundamentally different from the action of the curd of human milk, and, as Chapin well expresses it, this points strongly to the fact that the stomach of each species depends largely for its development on the stimulus afforded by the proteid content of its own proper milk. An absolute liquid diet offers no such stimulus, but in the case of the infant the soft flocculent curd is evidently sufficient for the purpose, which, in the case of the calf, demands coarser excitation for its accomplishment. Of the so-called "vital characteristics" of milk by which we understand that each milk shall be best suited to the young for which Nature intended it, too little is definitely known to make discussion profitable. Statistics are so overwhelming in proof of the fact that the breast-fed infant far surpasses the artificially fed infant in expectancy of life that further comment is unnecessary. The causes for the high mortality of artificially fed infants are undoubtedly the disturbances which may properly be classified as gastro-intestinal, originating in the inability of the infant to digest its food. It is impossible to compute the part

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*Read before West Philadelphia Branch of County Medical Society, June, 1905.

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played by bacteria in this high mortality, but the underlying cause has probably much to do with physiologico-chemical conditions. Of these ills innumerable pages have been written; and since Rotch first drew attention to the science of percentage feeding it would seem that, from the mechanical standpoint, we have almost exhausted the possibilities of the modification of milk to suit the varying powers of the infant's digestion. Sufficient stress, however, has not been laid on the importance of the gradual education of the newborn infant's digestive apparatus to accustom it to the foreign material which it is so often called on to receive.

This problem of the artificial nourishment of the infant often confronts us at the start; or the maternal secretion may suffice for a few days or weeks, but soon has to be aided and, later, substituted, by some hand-made mixture. At any period in infancy such substitution of an unnatural for a natural food requires a gradation in the steps of the process. Such a gradation is exceedingly important in the case of the newborn infant. Let us take a concrete example of what often happens in a case in which the nurse is untrained. The mother's supply of milk fails within the first week of the puerperium. The nurse on her own initiative adopts her favorite method of feeding, usually cow's milk and water in equal parts; or perhaps a mixture made with condensed milk. In the haste of the moment and the security engendered by the fact that millions of infants have survived haphazard methods of feeding, the physician may at once dismiss the subject from his mind. Provided there are no undeniably bad results, these feedings are continued at the discretion of the nurse or mother. If this discretion be tempered with common sense or useful experience, all may be well, or the infant may belong to the fortunate class which can digest anything. Frequently, however, the sequence of events will be somewhat as follows: The infant soon begins to exhibit signs of indigestion and is designated by the nurse as a colicky baby. The frequent use of carminatives, with or without opium; mainly, however, the fact that the infant sleeps most of its first days and therefore takes little of the indigestible mixture, will probably tide the case safely over the two or three weeks usually allotted to the puerperium. The baby has grown, the mother is satisfied, the physician is busy and unsuspecting, and the nurse departs more than ever convinced of her ability to feed the newborn. In the absence of any training to the contrary, she is certainly not blameworthy.

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Such types are constantly seen in dispensary practice, although the number among the more fortunate classes is by no means small. The ultimate fate of many of these infants who recover after a protracted attack of indigestion is open to conjecture, as they often pass out of the experience of the individual physician. An interesting field for statistics here presents itself. It is reasonable to suppose that they are at least handicapped in the race of life, even though all traces of their former ill health shall have disappeared within a few years.

The disadvantages of such protracted attacks of indigestion are obvious, but the difficulty of correcting them is equally so. Apart from cases of congenital disease or the ills attendant on the pauperism of many of the city's poor, many of these difficulties may be avoided by proper care at the start of the infant's feeding. It may also be well to call attention to the fact that by no means all the maternal milk secreted is fit for the infants who receive it. Analyses of specimens of milk in many cases in which the maternal supply fails in the first few months of the infant's life will show disturbances in the normal proportions of the ingredients of the milk, which may easily prove to be the starting point of digestive disturbances even before artificial feeding has been attempted. Persistence of indigestion in the case of an infant fed solely on breast milk, therefore, should demand an investigation of that milk.

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According to the analyses published by Holt, the upper portions of quart bottles of good average milk which have stood undisturbed for at least eight hours after bottling, will contain approximately the following percentages:

HOLT'S TABLE.

	Fat.	Sugar.	Proteid.
Upper 16 oz. or 1/2 bottle......	7	4.40	3.40
Upper 11 oz. or 1/3 bottle......	10	4.30	3.30
Upper 8 oz. or 1/4 bottle......	13	4.15	3.25
Upper 6 oz. or 1/5 bottle......	16	4.05	3.20

With Mr. Walter Cuthbert in 1902 and 1904 I made numerous tests of top milk from bottles of a milk which receives the certificate of the Philadelphia Pediatric Society.

Fat in Whole Milk.	Fat in Top of Milk.		
	Min. Fat. Per ct.	Max. Fat. Per ct.	Average Fat. Per ct.
4 to 4.2 per cent.	9.7	10.8	10.0 In 12 oz. of top milk.
5.1 to 5.4 per cent.	12.6	13.2	12.9 In 12 oz. of top milk.
4.1 to 4.5 per cent.	8.4	10.2	9.63 In 14 oz. of top milk.
4.7 to 5.5 per cent.	9.9	12.3	11.57 In 14 oz. of top milk.
4.2 to 4.5 per cent.	7.4	9.0	8.16 In 16 oz. of top milk.
4.7 to 5.5 per cent.	8.5	10.8	9.64 In 16 oz. of top milk.

While the quantities of top milk taken for most of our examinations did not correspond with those given by Holt, our test of a whole milk of a fat percentage of 4.2 gave 7.4 per cent. of fat in the upper 16 ounces—a result which is sufficiently close to prove his point when we consider that the average milk to which he alludes probably ran as much below as it did above 4 per cent. of fat. In an isolated test of an average market milk of a fat percentage of 3.8, we found 12.6 per cent. fat in the upper eight ounces, which again substantiates Holt's figures.

The great variability of the fat percentage in top milk is well known. Even the advocates of cream-milk mixtures, however, can not claim immunity from this variation, for this ingredient fat is notoriously uncertain. The dilution of top milk necessary for young infants will materially reduce this variation in the fat content, and the healthy infant will usually experience no difficulty with it.

It is with the proteid, however, that there is need of greater accuracy, and with this ingredient of milk we fortunately find much less liability to variation than is the case with the fat. In many of the analyses of former years the proportion of proteid in cow's milk was always given at approximately 4 per cent. More recent works have stated that this percentage is nearer 3.5 than 4 per cent.

The sugar in cow's milk will approximately equal 4.5 per cent. In dealing with top milk, while it must be remembered that the percentage of proteid and sugar will decrease as the percentage of fat increases (see Holt's table), for practical purposes allowance need only be made for this when we use 13 or 16 per cent. cream. For whole milk, skimmed milk, 7 per cent. cream and 10 per cent. cream, the sugar may be calculated as 4.5 per cent. and the proteid as 3.5 per cent.

Of equal importance with the strength of the milk is the knowledge of certain other data in regard to the actual feeding of the infant. The amount and frequency of the meals, as well as the strength of the mixture, are usually left to the nurse or to the mother, whereas the *former count quite as much toward success as the latter.* When an infant is to be taught to take cow's milk it is as easy to accustom it to the proper amount and to the proper interval between feedings as to the milk mixture itself. The rules for the strength of the mixture, the total amount of the mixture and the frequency of the meals are necessarily somewhat arbitrary and are subject to frequent revision. The proper interval should be more strictly adhered to than the amount or strength of the mixture. For example: A three-months-old infant may be taking three ounces of a 3-6-1 mixture every *two and one-half hours, but it may show by evident* dissatisfaction after each meal and by failure to gain in weight that both the amount and strength of the mixture need to be increased, while the interval may usually be bridged over with plain drinking water or barley water given in the bottle. Only in exceptional instances, such as illness, should the interval be lessened. The number of feedings will depend largely on the initial training of the child and on the appropriateness of the mixture to its nutritional needs. Much depends on the manner of training, and for the sake of the mother as well as the child, it would be well at least to attempt a strict adherence to rule. During the first two months of the child's life two night feedings will probably be necessary; from the third to the fifth year one night feeding should be sufficient. Often before the fifth month and always after it night feedings should be abolished; *that is to say, any meal taken later than 9 p. m. or* earlier than 6 a. m., except in cases of illness when the amount of nourishment taken by day may be *insufficient* to tide the child over the nine-hour period. In the case of the healthy infant, however, there can be no more reason for dispensing with a proper interval of rest for the digestive function than there is in the *adult. Frequently* will it be found that the stopping of an injudicious prolongation of the habit of night feeding will at once control an indigestion which no amount of care expended on the day feeding has checked. The number of day feedings will obviously depend also on the sleeping propensities of the child, as will the intervals between the feedings. Persistent habits of sleeping by day and waking at night can only be broken by arousing the infant at the proper intervals.

As an aid to memory, the following condensation of *facts may be advocated*: During the first two months of life the interval between feedings should be two hours; during the second two months the interval should be two and one-half hours. After the fourth month the interval should be three hours. The amount of mixture to be given at different ages may be stated approximately as follows: First week, 1 ounce; second and third weeks, 1½ ounces; fourth week, 2 ounces. From the second to the seventh month, inclusive, the amount of mixture in ounces varies from the number of the month to one in advance of it; for example, third month, from 3 to 4 ounces; fifth month, from 5 to 6 ounces, etc. Rarely will it be advisable or necessary *to administer more than* 8 ounces at one feeding. Finally, there should be considered the strength of the milk mixture.

It may be assumed that the average healthy infant can digest whole cow's milk at the age of from 8 to 12 months. Infants above the normal may, and certainly do, accomplish this at an earlier age, but the risk of such forcing is not justified by the results, and, indeed, is often disastrous. For certain infants, the digestion of whole milk at any time during the first two years of life may prove to be a hopeless attainment. For such the limits of top-milk mixtures and of this discussion are alike insufficient. For the average, however, the end to be attained in milk modification is a 4-4.5—3.5 basis (whole milk) at the age of from 8 to 12 months.

The first three months are the crucial period and the mistake most commonly made is when the artificial feeding is begun. During this period the strength of the first milk mixtures should be as follows: Fat, 1.5 to 2 per cent.; sugar, from 4 to 5 per cent.; proteid, from 0.5 to 0.75 per cent. The strength of this mixture must naturally be increased quite rapidly at first as compared with later mixtures. By the third or fourth month, the fat should have been increased to from 2.5 to 3.5 per cent. sugar to 6 per cent. and the proteid to from 1.5 to 2.5 per cent. From the eighth to the twelfth month the strength of whole milk should have been reached.

The cardinal points for guidance in increasing the strength of the mixtures are the condition of the child's digestion, the gain in weight and what may be called the "subjective needs" of the child itself. The latter, that is, the hunger of the child may safely be consulted provided the digestive function is not impaired. The spurious hunger of infants with chronic gastroenteric disorders must not be confounded with the healthy appetite.

In this connection it is important to remember that the good or bad effects of any given formula *must not* be judged too hastily. Except in the presence of an active diarrhea or the result of a purgative, the appearance of a stool gives evidence of a meal taken at least twenty-four hours before, or even longer. It is also important to remember that no single stool, but a succession of stools, is necessary to prove a point. A change in the milk formula must, therefore, not be made too hastily.

The importance of [illegible] hild can safely be reiterated. Stated [illegible] child should gain from 5 to 7 ounces a week during the first four months of life, from 3 to 5 ounces during the fifth, sixth and seventh months, and from 2 to 4 ounces from the eighth to the twelfth month. Daily weighings are apt to be misleading. At first bi-weekly, and later weekly weighings are sufficient. The clothing factor must be the same at each observation or else strict allowance must be made for it; weighings should be made as nearly as possible at corresponding times, both as to the hour of the day and the interval that has elapsed since the last feeding.

As has been said, one of the greatest difficulties in the application of our knowledge of infant feeding lies in the time required to expound the essentials of this knowledge in an intelligible form to the mother. The knowledge of the strength of the top milks to be used is requisite. To repeat, the upper sixteen ounces of average milk (4 per cent. fat), contains, approximately, 7 per cent. fat; the upper 11 ounces, 10 per cent. fat; the upper 8 ounces, 13 per cent. fat, and the upper 6 ounces, 16 per cent. fat.

Speaking of the different top milks as 16 per cent. cream, 13 per cent. cream, 10 per cent. cream, etc., it is interesting to note that the proportion of fat to proteid in 7 per cent. cream is approximately, as 2 to 1; in 10 per cent. cream as 3 to 1; in 13 per cent. cream as 4 to 1, and in 16 per cent. cream as 5 to 1. In whole milk, which contains 4 per cent. fat, the proportion is approximately 1 to 1.

The determination of the proportion of ingredients of a mixture to be made with the above-described top milks becomes merely a matter of simple division. For example, diluting 7 per cent. cream with equal parts of water will give us a mixture of half the strength or fat 3.5 per cent,. sugar 2.25 per cent., proteid 1.75 per cent. One part of 7 per cent. cream with two parts of diluent will yield a mixture of one-third strength, or fat 2.3 per cent., sugar 1.50 per cent., proteid 1.1 per cent. In both of these instances the proportion of fat to proteid is as 2 to 1. The same dilutions of 10 per cent. cream with one or two parts of water would give, respectively, 5 per cent. and 3.3 per cent. of fat, the sugar and proteid remaining the same. In like manner, a number of mixtures may be devised, working only on the few elemental figures given. Refinements in the method may be introduced with the use of skimmed milk or that portion of the contents of the quart bottle which is left after all the cream has been removed with the top milk. Skimmed milk is practically fat free, the sugar and proteid being approximately the same as in top milk.

It remains to consider the question of the sugar. The amount of this ingredient necessary to bring the proportion up to the amount required for the proper nourishment of the infant is from 5 to 7 per cent., and to obtain this we need only employ a 3, 4 or 5 per cent. sugar solution as a diluent instead of plain water. A 5 per cent. sugar solution obviously would consist of 1 ounce of sugar with 20 ounces of water, or fractions thereof. A 4 per cent. sugar solution consists of 1 ounce of sugar in 25 ounces of water; a 3 per cent. of sugar solution consists of 1 ounce of sugar in 33 ounces of water. Three level tablespoonsful of lactose approximately will equal 1 ounce. With these data at our command we may best demonstrate the method of using them by citing a concrete instance. Suppose an infant of normal development is to be fed artificially at the end of the first week of its life. The proportion of fat in the mixture should be about 1.5 per cent., sugar 4 per cent., and the proteid .75 per cent. The amount of the mixture to be given at each feeding should be about 1 ounce, and there should be prepared from ten to twelve feedings for the twenty-four hours' consumption.

For the preparation of the mixture, beside the quart bottle of milk on which the cream has been left undisturbed, there will be needed a supply of lactose or milk sugar, a six or eight-ounce graduate or other receptacle of known capacity, a supply of boiled water, a quart fruit jar and a bowl for mixing. With care it is possible to pour off the upper 10 to 16 ounces of a quart bottle of milk in such a manner as to secure practically all the cream, but more desirable, and for smaller quantities indispensable, is the 1-ounce milk dipper, of which there are several designs on the market. To obviate the possible danger of the milk dipper it should be scalded immediately after, as well as before, its use. All the other utensils should likewise be scalded before being used.

In the case above noted, our instructions to the nurse or mother would be given in writing as follows:

Remove the upper sixteen ounces of top milk. Dissolve one results may usually be obtained with it. Whenever it is feasible, the personal investigation by the physician of one or more dairies will often enable him to recommend a useful product at market rates. The methods of obtaining the desired percentages in the milk mixtures can be made extremely simple, so as to demand no more time than ordinary prescription writing. The only requirement is the knowledge of the percentages of ingredients in varying amounts of top milk.

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With Mr. Walter Cuthbert in 1902 and 1904 I made numerous tests of top milk from bottles of a milk which receives the certificate of the Philadelphia Pediatric Society.

Fat in Whole Milk.	Fat in Top of Milk.		
	Min. Fat. Per ct.	Max.Fat. Per ct.	Average Fat. Per ct.
4 to 4.2 per cent.	9.7	10.8	10.0 In 12 oz. of top milk.
5.1 to 5.4 per cent.	12.6	13.2	12.9 In 12 oz. of top milk.
4.1 to 4.5 per cent.	8.4	10.2	9.63 In 14 oz. of top milk.
4.7 to 5.5 per cent.	9.9	12.3	11.57 In 14 oz. of top milk.
4.2 to 4.5 per cent.	7.4	9.0	8.16 In 16 oz. of top milk.
4.7 to 5.5 per cent.	8.5	10.8	9.64 In 16 oz. of top milk.

While the quantities of top milk taken for most of our examinations did not correspond with those given by Holt, our test of a whole milk of a fat percentage of 4.2 gave 7.4 per cent. of fat in the upper 16 ounces—a result which is sufficiently close to prove his point when we consider that the average milk to which he alludes probably ran as much below as it did above 4 per cent. of fat. In an isolated test of an average market milk of a fat percentage of 3.8, we found 12.6 per cent. fat in the upper eight ounces, which again substantiates Holt's figures.

The great variability of the fat percentage in top milk is well known. Even the advocates of cream-milk mixtures, however, can not claim immunity from this variation, for this ingredient fat is notoriously uncertain. The dilution of top milk necessary for young infants will materially reduce this variation in the fat content, and the healthy infant will usually experience no difficulty with it.

It is with the proteid, however, that there is need of greater accuracy, and with this ingredient of milk we fortunately find much less liability to variation than is the case with the fat. In many of the analyses of former years the proportion of proteid in cow's milk was always given at approximately 4 per cent. More recent works have stated that this percentage is nearer 3.5 than 4 per cent.

The sugar in cow's milk will approximately equal 4.5 per cent. In dealing with top milk, while it must be remembered that the percentage of proteid and sugar will decrease as the percentage of fat increases (see Holt's table), for practical purposes allowance need only be made for this when we use 13 or 16 per cent. cream. For whole milk, skimmed milk, 7 per cent. cream and 10 per cent. cream, the sugar may be calculated as 4.5 per cent. and the proteid as 3.5 per cent.

Of equal importance with the strength of the milk is the knowledge of certain other data in regard to the actual feeding of the infant. The amount and frequency of the meals, as well as the strength of the mixture, are usually left to the nurse or to the mother, whereas the former count quite as much toward success as the latter. When an infant is to be taught to take cow's milk it is as easy to accustom it to the proper amount and to the proper interval between feedings as to the milk mixture itself. The rules for the strength of the mixture, the total amount of the mixture and the frequency of the meals are necessarily somewhat arbitrary and are subject to frequent revision. The proper interval should be more strictly adhered to than the amount or strength of the mixture. For example: A three-months-old infant may be taking three ounces of a 3-6-1 mixture every two and one-half hours, but it may show by evident dissatisfaction after each meal and by failure to gain in weight that both the amount and strength of the mixture need to be increased, while the interval may usually be bridged over with plain drinking water or barley water given in the bottle. Only in exceptional instances, such as illness, should the interval be lessened. The number of feedings will depend largely on the initial training of the child and on the appropriateness of the mixture to its nutritional needs. Much depends on the *manner of training*, and for the sake of the mother as well as the child, it would be well at least to attempt a strict adherence to rule. During the first two months of the child's life two night feedings will probably be necessary; from the third to the fifth year one night feeding should be sufficient. Often before the fifth month and always after it night feedings should be abolished; that is to say, any meal taken later than 9 p. m. or earlier than 6 a. m., except in cases of illness when the amount of nourishment taken by day may be insufficient to tide the child over the nine-hour period. In the case of the healthy infant, however, there can be no more reason for dispensing with a proper interval of rest for the digestive function than there is in the adult. Frequently will it be found that the stopping of an injudicious prolongation of the habit of night feeding will at once control an indigestion which no amount of care expended on the day feeding has checked. The number of day feedings will obviously depend also on the sleeping propensities of the child, as will the intervals between the feedings. Persistent habits of sleeping by day and waking at night can only be broken by arousing the infant at the proper intervals.

As an aid to memory, the following condensation of facts may be advocated: During the first two months of life the interval between feedings should be two hours; during the second two months the interval should be two and one-half hours. After the fourth month the interval should be three hours. The amount of mixture to be given at different ages may be stated approximately as follows: First week, 1 ounce; second and third weeks, 1½ ounces; fourth week, 2 ounces. From the second to the seventh month, inclusive, the amount of mixture in ounces varies from the number of the month to one in advance of it; for example, third month, from 3 to 4 ounces; fifth month, from 5 to 6 ounces, etc. Rarely will it be advisable or necessary to administer more than 8 ounces at one feeding. Finally, there should be considered the strength of the milk mixture.

It may be assumed that the average healthy infant can digest whole cow's milk at the age of from 8 to 12 months. Infants above the normal may, and certainly do, accomplish this at an earlier age, but the risk of such forcing is not justified by the results, and, indeed, is often disastrous. For certain infants, the digestion of whole milk at any time during the first two years of life may prove to be a hopeless attainment. For such the limits of top-milk mixtures and of this discussion are alike insufficient. For the average, however, the end to be attained in milk modification is a 4-4.5—3.5 basis (whole milk) at the age of from 8 to 12 months.

The first three months are the crucial period and the mistake most commonly made is when the artificial feeding is begun. During this period the strength of the first milk mixtures should be as follows: Fat, 1.5 to 2 per cent.; sugar, from 4 to 5 per cent.; proteid, from 0.5 to 0.75 per cent. The strength of this mixture must naturally be increased quite rapidly at first as compared with later mixtures. By the third or fourth month, the fat should have been increased to from 2.5 to 3.5 per cent. sugar to 6 per cent. and the proteid to from 1.5 to 2.5 per cent. From the eighth to the twelfth month the strength of whole milk should have been reached.

The cardinal points for guidance in increasing the strength of the mixtures are the condition of the child's digestion, the gain in weight and what may be called the "subjective needs" of the child itself. The latter, that is, the hunger of the child may safely be consulted provided the digestive function is not impaired. The spurious hunger of infants with chronic gastroenteric disorders must not be confounded with the healthy appetite.

In this connection it is important to remember that the good or bad effects of any given formula must not be judged too hastily. Except in the presence of an active diarrhea or the result of a purgative, the appearance of a stool gives evidence of a meal taken at least twenty-four hours before, or even longer. It is also important to remember that no single stool, but a succession of stools, is necessary to prove a point. A change in the milk formula must, therefore, not be made too hastily.

The importance of weighing the child can safely be reiterated. Stated roughly, a healthy child should gain from 5 to 7 ounces a week during the first four months of life, from 3 to 5 ounces during the fifth, sixth and seventh months, and from 2 to 4 ounces from the eighth to the twelfth month. Daily weighings are apt to be misleading. At first bi-weekly, and later weekly weighings are sufficient. The clothing factor must be the same at each observation or else strict allowance must be made for it; weighings should be made as nearly as possible at corresponding times, both as to the hour of the day and the interval that has elapsed since the last feeding.

As has been said, one of the greatest difficulties in the application of our knowledge of infant feeding lies in the time required to expound the essentials of this knowledge in an intelligible form to the mother. The knowledge of the strength of the top milks to be used is requisite. To repeat, the upper sixteen ounces of average milk (4 per cent. fat), contains, approximately, 7 per cent. fat; the upper 11 ounces, 10 per cent. fat; the upper 8 ounces, 13 per cent. fat, and the upper 6 ounces, 16 per cent. fat.

Speaking of the different top milks as 16 per cent. cream, 13 per cent. cream, 10 per cent. cream, etc., it is interesting to note that the proportion of fat to proteid in 7 per cent. cream is approximately, as 2 to 1; in 10 per cent. cream as 3 to 1; in 13 per cent. cream as 4 to 1, and in 16 per cent. cream as 5 to 1. In whole milk, which contains 4 per cent. fat, the proportion is approximately 1 to 1.

The determination of the proportion of ingredients of a mixture to be made with the above-described top milks becomes merely a matter of simple division. For example, diluting 7 per cent. cream with equal parts of water will give us a mixture of half the strength or fat 3.5 per cent,. sugar 2.25 per cent., proteid 1.75 per cent. One part of 7 per cent. cream with two parts of diluent will yield a mixture of one-third strength, or fat 2.3 per cent., sugar 1.50 per cent., proteid 1.1 per cent. In both of these instances the proportion of fat to proteid is as 2 to 1. The same dilutions of 10 per cent. cream with one or two parts of water would give, respectively, 5 per cent. and 3.3 per cent. of fat, the sugar and proteid remaining the same. In like manner, a number of mixtures may be devised, working only on the few elemental figures given. Refinements in the method may be introduced with the use of skimmed milk or that portion of the contents of the quart bottle which is left after all the cream has been removed with the top milk. Skimmed milk is practically fat free, the sugar and proteid being approximately the same as in top milk.

It remains to consider the question of the sugar. The amount of this ingredient necessary to bring the proportion up to the amount required for the proper nourishment of the infant is from 5 to 7 per cent., and to obtain this we need only employ a 3, 4 or 5 per cent. sugar solution as a diluent instead of plain water. A 5 per cent. sugar solution obviously would consist of 1 ounce of sugar with 20 ounces of water, or fractions thereof. A 4 per cent. sugar solution consists of 1 ounce of sugar in 25 ounces of water; a 3 per cent. of sugar solution consists of 1 ounce of sugar in 33 ounces of water. Three level tablespoonsful of lactose approximately will equal 1 ounce. With these data at our command we may best demonstrate the method of using them by citing a concrete instance. Suppose an infant of normal development is to be fed artificially at the end of the first week of its life. The proportion of fat in the mixture should be about 1.5 per cent., sugar 4 per cent., and the proteid .75 per cent. The amount of the mixture to be given at each feeding should be about 1 ounce, and there should be prepared from ten to twelve feedings for the twenty-four hours' consumption.

For the preparation of the mixture, beside the quart bottle of milk on which the cream has been left undisturbed, there will be needed a supply of lactose or milk sugar, a six or eight-ounce graduate or other receptacle of known capacity, a supply of boiled water, a quart fruit jar and a bowl for mixing. With care it is possible to pour off the upper 10 to 16 ounces of a quart bottle of milk in such a manner as to secure practically all the cream, but more desirable, and for smaller quantities indispensable, is the 1-ounce milk dipper, of which there are several designs on the market. To obviate the possible danger of the milk dipper it should be scalded immediately after, as well as before, its use. All the other utensils should likewise be scalded before being used.

In the case above noted, our instructions to the nurse or mother would be given in writing as follows:

Remove the upper sixteen ounces of top milk. Dissolve one level tablespoonful of milk sugar in eleven ounces of boiled water. Put three ounces of top milk and nine ounces of sugar water into a scalded jar, cover and set on ice. Feed one ounce of this mixture every two hours.

In explanation of this, we must remember that the desired feeding for twenty-four hours must consist of 12 ounces of mixture containing approximately 1.50 per cent. fat, 4 per cent. sugar and 0.75 per cent. proteid. The fat-proteid proportion in this being 2 to 1, we may use 7 per cent. cream (upper 16 ounces), which contains 7 per cent. fat, 4.5 per cent. sugar and 3.5 per cent. proteid. A dilution of this four times, or 3 ounces of 7 per cent. cream and 9 ounces of diluent, obviously will give us 1.75 per cent. fat, 1.12 per cent. sugar and 0.87 per cent. proteid; the use of 3 per cent. sugar solution as the diluent will supply the deficiency of sugar.

When we desire to increase the strength of this mixture it may be done conveniently by simply shifting the proportion of cream and sugar solution. For example, three parts of cream and nine parts of diluent (one in four) equals 1.75 per cent. fat, 1.12 per cent. sugar and 0.87 per cent. proteid. Four parts of cream and eight parts of diluent (one in three) equals 2.30 per cent. fat, 1.50 per cent. sugar and 1.16 proteid. By increasing the cream half an ounce (one tablespoonful) at a time and decreasing the sugar solution by the same amount, we would gradually pass from a 1.75, 1.12, 0.87 basis to a 2.33, 1.50, 1.16 basis. The fat-proteid proportion remains the same. When we deal with larger quantities of mixture the change can be made more gradually. For example, in the second week of life the total quantity of mixture becomes 18 ounces instead of 12 (1½ ounces at a feeding). One part of cream and three parts of diluent becomes, therefore, 4½ ounces of cream and 13½ ounces of sugar solution (fat 1.75 per cent. sugar, 1.12 per cent. proteid, 0.87 per cent.). Six ounces of cream and 12 ounces of sugar solution (one in three) would give us 2.33 per cent. 1.50 per cent. sugar and 1.16 per cent. proteid. By increasing the cream half an ounce at a time and decreasing the sugar solution by the same amount we would pass during the second and third week to the latter strength. By the fourth week, when 2 ounces are generally needed at a feeding, the total quantity of mixture becomes 24 ounces instead of 18. Eight ounces of cream and 16 ounces of sugar solution (one in three) still gives us the 2.33, 1.50, 1.16 basis, which will probably be sufficient for the second month. By the third month, when the interval between feedings will be increased to two and a half hours with 3 ounces at a feeding, the total feedings will not exceed ten; and 30 ounces of mixture will be sufficient. Ten ounces of cream and 20 ounces of sugar solution (one in three) may then be gradually increased, one-half ounce at a time, to 15 ounces each of cream and sugar solution, which would represent 3.5 per cent. fat, 2.25 per cent. sugar and 1.75 per cent. proteid. As an example of some of the formulæ which can be obtained with milk and top milk the table in the preceding column may be cited.

	Fat.	Sugar.	Proteid.
One part of 4 per cent. milk with one part of diluent (1 in 2)........................	2.00	2.75	1.75
One part of 5 per cent milk with one part of diluent (1 in 2)........................	2.50	2.75	1.75
One part of 7 per cent. cream with one part of diluent (1 in 2).....................	3.50	2.75	1.75
One part of 4 per cent. milk with two parts of diluent (1 in 3).....................	1.33	1.50	1.16
One part of 5 per cent. milk with two parts of diluent (1 in 3).....................	1.66	1.50	1.16
One part of 7 per cent cream with two parts of diluent (1 in 3).....................	2.33	1.50	1.16
One part of 10 per cent cream with two parts of diluent (1 in 3)................	3.33	1.50	1.16
One part of 4 per cent. milk with three parts of diluent (1 in 4).....................	1.00	1.16	.87
One part of 5 per cent. milk with three parts of diluent (1 in 4).....................	1/25	1.16	.87
One part of 7 per cent. cream with three parts of diluent (1 in 4)................	1/75	1.16	.87
One part of 10 per cent. cream with three parts of diluent (1 in 4)...............	2.50	1.16	.87
One part of 13 per cent. cream in two parts of diluent (1 in 3).....................	4.33	1.38	1.08
One part of 10 per cent. cream, one part of skimmed milk, one part of diluent (1/3 fat, 2/3 sugar and proteid)............	3.30	3.00	2.33
One part of 13 per cent. cream, one part of skimmed milk, one part of diluent (1/3 fat, 2/3 sugar and proteid)............	4.30	3.00	2.33
One part of 10 per cent. cream, two parts of skimmed milk (1/3 fat, sugar and proteid same as in milk.) (None.)..........	3.9	4.50	3.50

The mother must be instructed to thoroughly mix the contents of the jar by shaking before pouring out the feeding and to warm the latter by standing the feeding bottle in hot water before administering the milk. The *preparation of all the bottles necessary for the day's feeding* at the time of making the mixture is distinctly desirable, but can only be advocated in the case of enthusiastic co-operation on the part of the mother.

If the foregoing instructions seem complicated at first reading a few moment's reflection will surely prove the reverse to be true. The data to be memorized are the fundamental strengths of milk and certain creams; the rest is simple division.

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IMPROVED OPERATION FOR HYPOSPADIAS INVOLVING THE GLANS AND PENILE PORTION OF THE URETHRA.

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Hypospadias is a condition due to want of fusion of the lips of the urogenital sinus which go to form the urethra and varies in degree from an unduly large meatus to a completely cleft urethra. This deformity, unlike the somewhat similar condition of epispadias, never extends into the bladder, and incontinence of urine is, therefore, not one of its complications.

In hypospadias affecting the glans the inconvenience may be so slight as to be almost unnoticeable, but it increases the further back the cleft extends. There are two troubles in connection with hypospadias: In the first place the urethral opening is always unduly narrow, sometimes extremely so, and there is, therefore, a certain amount of back pressure from which serious results may follow. The second trouble is that the penis is always curved downward when the cleft in the urethra extends any distance back, and this incurvation is greater the further back the cleft extends. Attempts to straighten the organ are resisted by a fibrous band or bands corresponding to the remains of the urogenital groove and lying in the position of the normal urethral roof. This incurvation produces much inconvenience, as the urine is projected against the down-curved organ, the stream is broken up and the patient may be constantly wetted. In children this often gives rise to troublesome eczema in addition to the offensive ammoniacal decomposition of the urine on the clothes. When the urethral orifice is situated further back than the glans, coitus is often practically impossible, as proper erection is prevented by the incurvation. When the cleft extends still further back and is associated with a cleft scrotum, the condition closely resembles hermaphrodism and the rudimentary organ is quite useless.

The cases met with may be divided into three groups:

(1) Those in which the fissure is limited to the glans; (2) those in which the cleft is in the penile portion and the orifice of the urethra opens anteriorly to the scrotum, and (3) those in which the scrotum is cleft and the urine issues from an opening in the perineum. The first two groups of hypospadias are considered here. I have reviewed the articles of Cheyne and Burgland, Duplay, R. Hamilton, C. Beck and others on this subject, but do not intend to review their methods. I wish, however, to acknowledge many valuable points taken from these writers and used in the construction of this paper.

Treatment is of much avail when the urethral orifice is in front of the scrotum. When the hypospadias simply consists of an unduly large meatus it is often unnecessary to interfere at all. The only point of importance is to make sure that there is no constriction at the orifice of the urethra; should one exist it must be dilated or slit up in the manner used for stricture of the meatus.

When, however, the condition is one either of complete hypospadias of the glans or of a cleft urethra anywhere between the glans and the scrotum, it is necessary to repair the urethral canal. The best time to operate seems to be from 6 to 12 years of age. By that time the patient is amenable to discipline, and there is also plenty of time for the genital organs to develop after the operation, and, moreover, there is not so much likelihood of trouble from erections as there is later. Erections are very likely to be fatal to the success of such an operation.

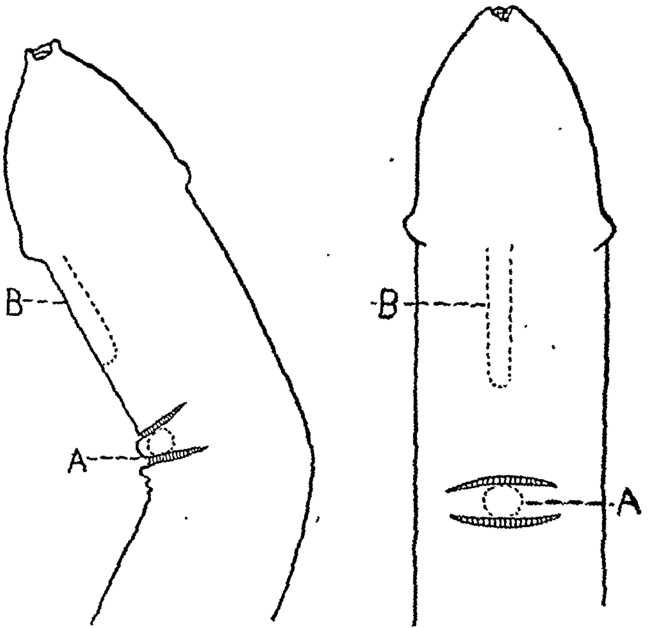

Figure 1. Figure 2.

Figs. 1 and 2 show incurvation, prepuce over glans. A shows urinary orifice in body of penis. B shows short blind groove in body back of glans penis, in particular case reported.

METHOD OF TREATMENT.

Several points have to be attended to in treating a case of hypospadias. The curvature of the penis must be remedied; the natural orifice of the urethra must be made of normal size, and a fresh urethra must be made from this orifice to the end of the glans. The satisfactory way of fulfilling these indications is: 1. To perform an external perineal urethrotomy and insert a large tube into the bladder, thus draining away every drop of urine so that the plastic operations which are done later will heal primarily

For this the *patient* is anesthetized and a Syme's staff is introduced. The staff is passed through the urethra into the bladder, the handle is intrusted to an assistant, and the patient is brought down to the end of the table and put in the lithotomy position. The assistant should hold the staff perfectly vertical and pull the scrotum out of the way. The surgeon makes an inch and one-half median incision about an inch in front of the anus. After the superficial structures have been divided, a forefinger, introduced into the wound, feels for the staff in the urethra. Some blunt dissection and a few touches of the knife expose the urethra, the groove in the narrow portion is felt for, and the point of the knife is slipped along the finger until its point perforates the urethra and engages in the groove. The knife is now made to cut the urethra and an opening is made just sufficient to introduce a 32 French soft rubber catheter. The handle of the staff may now be depressed and the point of the instrument pushed on into the bladder. The staff is withdrawn and a 32 rubber catheter is passed through the wound into the bladder and held there by an adjustable tube holder.

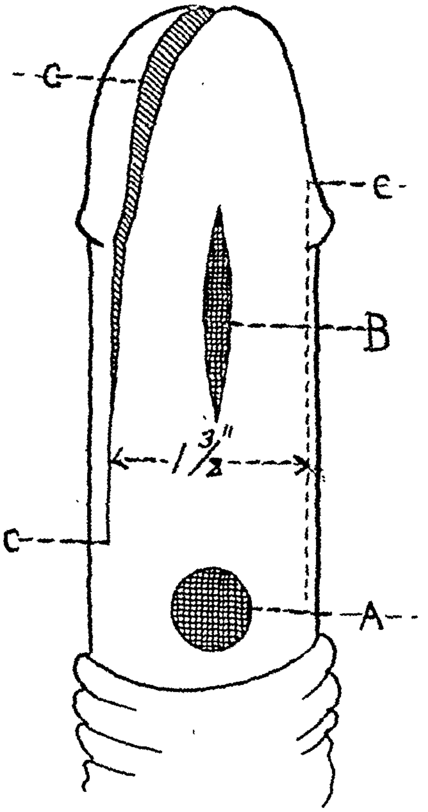

Fig. 3 shows urethral orifice (A) slit up to 33 French separated from its surroundings and edges trimmed evenly. B shows blind groove as in Figs. 1 and 2, but with prepuce well retracted. C shows incisions made for the formation of the new urethra.

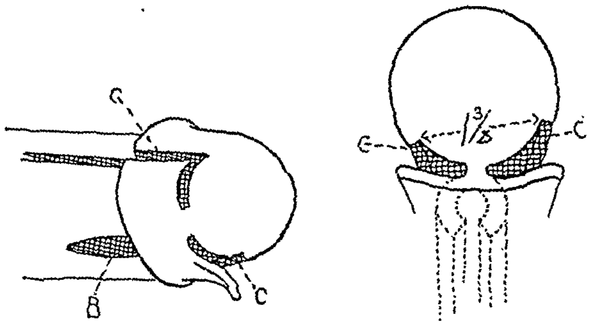

Figure 4. Figure 5.

Fig. 4 shows incisions made and flaps of mucous membrane and skin being dissected up, for new urethra in the glans and body of the penis. C shows raw surface of the glans after lifting flaps. Fig. 5 is the same as Fig. 4, except that dotted lines (D) show flaps brought edge to edge.

It is sometimes difficult to pass the catheter into the bladder, and the easiest plan to insure the instrument passing readily is to slip a Teale's gorget along the groove in the staff before the latter is withdrawn. The gorget passes from the perineal wound into the bladder and serves as a guide along which the point of the catheter is directed. Sometimes the caliber of the urethra is small at the neck of the bladder and has to be dilated to the proper size. This is readily done with a small uterine dilator or a rubber-covered Kohlman's dilator when the tube, *held in place with a tube holder,* is introduced and the bladder properly drained. The wound is dusted with odorless iodoform, and dressings are applied and kept in position by a T bandage.

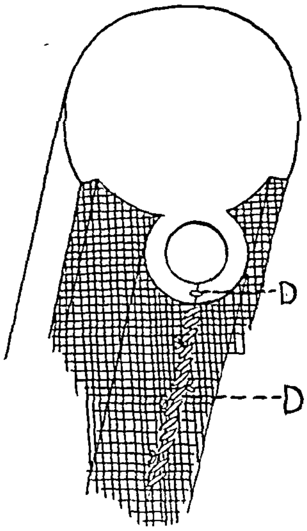

Figure 6.

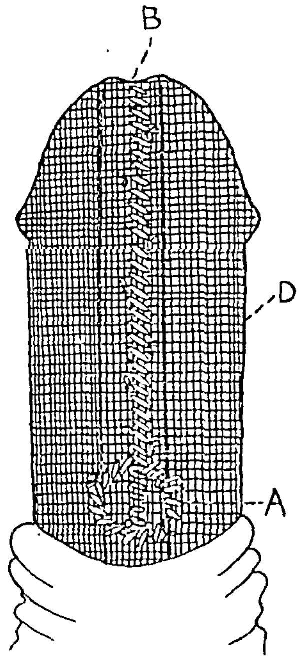

Figure. 7.

Fig. 6 shows the edges of the flaps taken from the glans and body sutured to each other to form new urethra (D). Fig. 7 shows same as Fig. 6, and anastomosis made between the new and old urethral orifices. B shows the end of the new urethra in glans penis. D shows raw surfaces of glans and body whence the flaps have been taken.

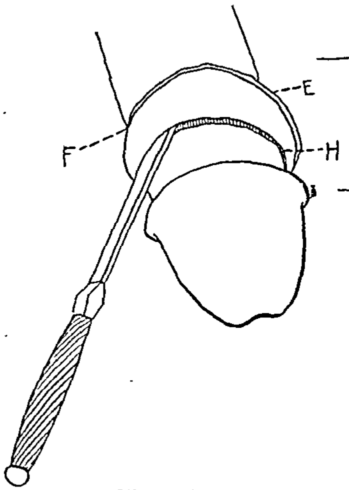

Figure 8.

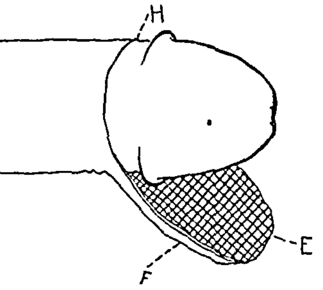

Figure 9.

Fig. 8 shows separation of prepucial hood (F), which consists of two layers, skin (E) and mucous membrane (H). Fig. 9 shows the prepucial hood brought down underneath the glans by carrying the glans through the transverse opening in the prepuce. E shows layer of mucous membrane. F shows layer of skin.

The patient's legs are now extended and the following steps of the operation on the glans and penile portions of the urethra are done, one after the other, under the same anesthesia, viz.: Correcting the incurvation; enlarging and freeing the old meatus; making a new urethra extending from the end of the glans to the old meatus in the body (Figs. 3, 4, 5 and 6); joining by absorbable sutures the new and the old urethral canals (Fig. 7); closing and covering over the raw surfaces on the under surface of the glans and the body of the penis by taking flaps from the rudimentary hood of the prepuce which covers the anterior surface of the glans and body (Figs. 8, 9, 10, 11 and 12); *correcting the deformity* of the convexity or anterior surface of the body by

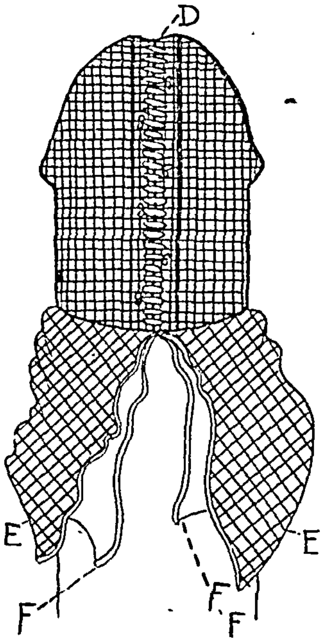

Figure 10.

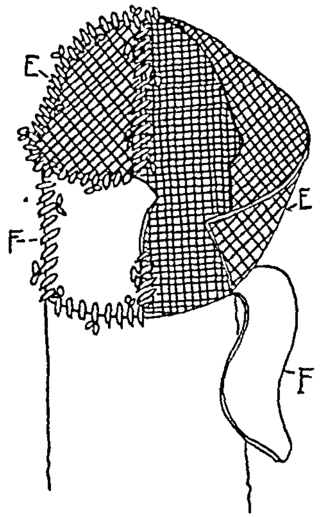

Figure 11.

Fig. 10 shows the newly placed prepuce, cut down the median line and its layers of mucous membrane (E) and skin (F) being dissected from each other ready to be used to cover completely the raw under surfaces of the glans and body of the penis and also to bury the stitches uniting the edges of new urethra and forming anastomosis between the new and old urethras.

Fig. 11 shows layers of mucous membrane (E) and skin (F) separated from each other (shown on the right side of figure) trimmed, put in place in their respective positions and sutured to the vertical cut edges of the glans and body whence the layers were taken to form new urethra (E and F) (shown on left side of figure). The raw surface on left side is completely covered by the mucous and skin layers which are also sutured transversely to each other.

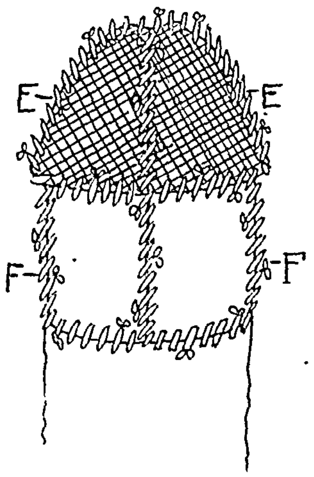

Fig. 12 shows the layers of mucous membrane and skin as in Fig. 11, sutured in their new positions, to the vertical edges, transversely to each other, the cut down the median line sutured, and the skin flaps at their lower parts sutured transversely to the *skin of the body of the penis,* thus completely covering all raw surfaces on the under aspect of the glans and body of the penis. While the cut down the median line was made in this case, usually this should not be done.

making a suitable vertical incision backward from the middle of the incision made to utilize the hood; bringing forward this vertical incision at its angle and suturing it in the same line and continuous with the prepucial or transverse incision, thus eliminating the convexity by shortening the antero-posterior measurement and overcoming the existing lateral constriction by increasing the transverse measurement (Figs. 13, 14 and 15). These steps are, in detail, as follows:

2. To remedy the incurvation (Figs. 1, 2, 3, 13, 14 and 15), the prepuce is drawn back and the urinary orifice in the body usually shows it much narrowed. This is slit up to admit a 33 French sound, and the urethra is dissected from its surroundings, thereby usually exposing the ends of the corpora cavernosa for an inch or so. All constricting fibrous bands are divided by transverse incisions so as thoroughly to straighten the organ (Fig. 3). Care should be taken not to injure the corpora, as it produces free bleeding.

3. Formation of a new urethra in the glans and body and its anastomosis with the dissected up old urethral orifice (Figs. 3, 4, 5, 6 and 7). A 33 French sound is introduced into the slit urinary orifice as a guide, and flaps 1⅜ inches wide of mucous membrane and submucous tissues and sometimes skin and subcutaneous tissues are dissected and taken from the under surface of the glans and body. These flaps are taken by making two vertical parallel incisions 1⅜ inches apart and extending from the end of the glans backward to the level of the dissected urethral orifice. The flaps are dissected loose so that they can be made to meet in the median line without tension over the sound. At each end short transverse incisions are made so as to enable the flaps to be raised. The edges of the flaps are united to each other in the middle line with fine continuous catgut sutures, using the sound as a guide in sewing. These stitches are inserted about eight to an inch and about every fourth is tied with a reef knot. The old urethra is dissected backward for about an inch, and an anastomosis is made between the ends of the new and the old urethras, using fine catgut sutures. Thus a complete canal is formed and in most cases is lined with mucous membrane. In other cases, where the urethra opens further back on the body in front of or shortly in front of the scrotum, skin flaps have to be utilized and substituted to restore the urethral canal in this region. These skin flaps are continuous with the mucous membrane flaps and are in like manner dissected and united in median line to each other so that skin forms the urethral canal where mucous membrane can not be obtained. These skin flaps must be hairless, as otherwise hairs grow in the urethra and cause trouble from their mere presence and the deposit on them of concretions from the urine. When hairs are present on these skin flaps, they should be permanently removed with the electric needle before the operation is undertaken. This must be done to insure satisfactory results, and applies equally in the somewhat similar plastic operations for epispadias (Figs. 3, 4 ,5, 6 and 7).

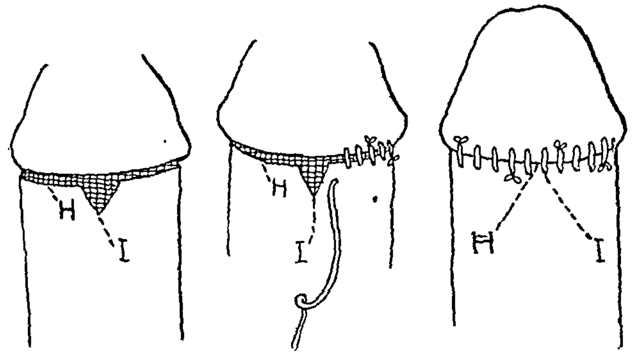

Figure 13. Figure 14. Figure 15.

Figs. 13, 14, 15 show the correction of the convexity and the transverse constrictions on the upper surface of the body by making about an inch long vertical incision in the median line backward from the transverse incision made in separating hood and the dissecting up and bringing forward and suturing it in the same line continuous with the transverse incision. This shortens the antero-posterior measurements and increases the transverse measurement.

4. To cover over the raw surfaces on the glans and body, the hood is utilized (Figs. 8, 9, 10, 11 and 12). The prepuce is put on the stretch and enough of its mucous membrane and skin layers is measured to cover these raw surfaces. A knife is made to cut transversely through both layers of the prepuce about half an inch back of the corona. The incision is enlarged laterally, separating it from the penis for about three-fifths of its extent (Fig. 8). This leaves a transverse opening in the prepuce through which the glans is passed so that the prepuce is brought down underneath to cover the raw area on the under surface of the glans and body (Fig. 9). The newly placed prepuce is cut down the median line and its layers of mucous membrane and skin are dissected from each other and, in turn, are trimmed as required, adjusted and sutured with fine catgut to the vertical cut edges of the glans and body so as to cover the raw surfaces accurately. The cut down the median line and the other edges are sutured accurately in their places with fine catgut stitches (Figs. 10, 11 and 12). It is usually not necessary to make the incision down the median line, but it was done in this case to trim up flaps and remove excess tissue. When the urethra opens in front of or near the scrotum, the raw surface in this area of the body is covered in by a flap taken from the adjacent anterior surface of the scrotum, and twisted on its axis and sutured accurately in place to the edges of the raw surface on this portion of the body so as to cover it completely. The scrotal wound being in loose tissues is readily sutured and thus closed without tension.

5. Correction of the hump or convexity and the transverse constriction on the anterior or upper surface of the body (Figs. 13, 14 and 15) is done by making an inch long vertical incision backward in the median line through the skin and subcutaneous tissues. This incision is at right angles to the transverse one made in separating the hood, and is made long enough so that when its angle is dissected it can be drawn forward and sutured in the same line and continuous with the stitching of the prepucial or transverse incision. This eliminates the convexity by diminishing the antero-posterior measurement of the penis and overcomes the existing lateral constriction in this region by increasing the transverse measurement to the normal condition.

ADVANTAGES OF THE METHOD.

This surgery takes a short time, healing is durable in two to four weeks, all the surgery is done at one sitting, the new canal retains its normal caliber, and its coverings remain in their new positions. The operation is simple, easy to follow, offers every advantage and is followed by the best results—better than any operation hitherto described. The preliminary external urethrotomy and drainage of the bladder allow the plastic surgery to heal without the least trouble. The time of healing in this operation as compared with the other methods is shortened from a year or more to a couple of weeks, it overcomes the necessity of operating in stages as done heretofore, thus avoiding several anesthesias, operations, saving time for both patient and surgeon and avoiding subsequent small operations due to failures by the older methods. In the old methods contractions sometimes occur which render the steps of the operations futile. In this operation the dressings are kept clean and dry, there is no soiling with urine, and it is not necessary to pass any instruments; there is no tension on the wound, no skin grafting, and the method is applicable to all cases.

The deeper structures are sutured separately and accurately with burned absorbable stitches so as to get perfect union. This layer of sutures forms a firm barrier, while the superficial layer forms an additional aid to healing. The character of the buried suture materials is of importance. Sterilized fine catgut or tendon is the most suitable material for burned sutures. If the animal sutures are aseptic the healing is usually satisfactory. Silk or other non-absorbable materials or too heavily chromicized catgut or tendon should not be used as buried sutures, for, although the wounds may heal primarily, yet later sinus or sinuses form and keep discharging until the suture or suturings are thrown off or removed surgically. Such healing also interferes with nice clean union.

I first performed the operation as above described in San Francisco in November, 1904. The patient was about 30 years of age and was referred to me by Dr. Alfred Sander, of San Francisco. The urethra opened anteriorly to the scrotum, about 2½ inches back of the glans on the under surface of the body and a little to the left of the median line. There was a marked incurvation of the penis which produced considerable inconvenience on urinating as the stream was broken and the patient usually wetted. Coitus was practically impossible, as proper erection and entrance were prevented by the incurvations. Surgery was of great avail; healing was primary and durable; the incurvation was overcome; a new urethra was formed; the glandular and penile urethra were built and anastomosis was made between the ends of the new and old urethras; all raw surfaces were covered over; the operation was finished successfully at one sitting and gave perfect functional results. Examination made a couple of months after the operation showed everything satisfactory and canal of normal caliber. After the operation the patient was kept sufficiently under bromids and chloral to control erections, thus greatly favoring primary healing.

533 Sutter Street.

ERRORS IN THE DETERMINATION OF FREE HYDROCHLORIC ACID.*

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Since Kühne demonstrated the necessity for free hydrochloric acid in peptic digestion many methods have been devised for its detection and determination. This multiplicity of tests is a good indication that none of them exactly fills the requirements. The tests chiefly recommended for the detection of free hydrochloric acid may be divided into two classes, those depending on the change in color produced in some indicator, such as congo-red, dimethyl-amido-azo-benzol, benzopurpurin, tropeolin 00 and others of similar character, and those depending on the coloration produced by the acid on certain organic materials, such as the phloroglucin-vanillin test of Günzberg and the sugar-resorcin test of Boaz.

Against the class of indicators as a whole we may state that, almost without exception, they give a reaction with the organic acids when present in sufficient concentration, as can be easily shown by testing the solutions of the various organic acids with them, the intensity of the reaction varying, of course, with the strength of the acid employed and the degree of delicacy of the end point of the indicator employed. The effect of the acid salts on the indicators is best shown by attempting to titrate a solution of orthophosphoric acid with decinormal alkali, using any of the indicators. According to theory were they not affected by acid salts, the end point should be reached when exactly one-third of the calculated amount of alkali necessary to neutralize all the hydrogen has been added, a condition by no means fulfilled by any of the indicators with which I have experimented. The same test can also be applied by titrating decinormal sulphuric acid with any of these indicators. Were they actually not affected by an acid salt the amount of decinormal alkali required would be exactly half the amount of decinormal sulphuric acid taken, while the result of the experiment shows that an amount of alkali too great for the formation of the acid salt and not enough for the complete neutralization of the acid hydrogen is required. An added disadvantage is that with many of these indicators the end point is frequently obscure, the operator even when trained in chemical work being unable to state definitely the end point.

For qualitative work no fault can be found with the tests of Günzberg and Boaz which give absolutely accurate results.

For quantitative purposes the use of the various indicators is even less reliable than their qualitative indications. As stated under their uses as qualitative tests, they all react to a certain extent with the various organic acids and acid salts and have an indefinite end point. What is still more important with them is their behavior with the so-called combined hydrochloric acid, which is split up as the titration proceeds, the hydrochloric acid and the proteid with which it is combined undergoing a cleavage, the hydrochloric acid thus liberated being also titrated as free hydrochloric. The hydrochloric acid shown by these indicators must, therefore, be composed of the true free hydrochloric acid, varying proportions of the acid salts, and organic acids, and also of a portion of the hydrochloric acid which was originally in combination with the proteids of the gastric contents.

Titration with either the Boaz or Günzberg reagent as an outside indicator requires at least three titrations to insure accurate results, as a considerable amount of the fluid will be used in the preliminary tests outside. In addition they will also show probably at least a small part of the combined hydrochloric acid which splits up as the titration proceeds.

In several years' use of the various indicators I became convinced of the serious errors at times occurring in the ordinary titrations for free hydrochloric acid, titrations showing, for example, a hyperchlorhydria, while the results of treatment did not bear out the results of the titration. When in search of a method which would be free from these sources of error, my attention was called to a method worked out by Hoffmann at Ostwald's suggestion, which seemed to give promise of better results, based, as it was, on an entirely different principle. Hoffmann's method was based on the effect of free hydrogen ions in saponifying methyl or ethyl acetate with the formation of free methyl or ethyl alcohol and acetic acid, the amount of the latter being proportional, other things being equal, to the amount of free hydrogen ion present, and readily titrated with decinormal alkali and an indicator such as phenolphthalein.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Considerable experience with this method has led me to make slight changes in it which, I think, give greater accuracy, though the actual difference is not great. As I carry out the method it may be described thus: Four small, clean, dry flasks are prepared and filled as follows:

No. 1. 10 c.c. gastric juice alone.

No. 2. 10 c.c. gastric juice and 2 c.c. of methyl acetate.

No. 3. 10 c.c. distilled water and 2 c.c. methyl acetate.

No. 4. 10 c.c. N/40 HCl and 2 c.c. methyl acetate.

These are tightly stoppered and placed for at least four hours in a hot air bath at a temperature of between 50 and 55 degrees Centigrade, not at any time exceeding 56, the boiling point of methyl acetate. At the end of at least four hours they are removed and the contents titrated with decinormal alkali, using phenolphthalein as an indicator to the first pink tinge.

No. 1 shows the original acidity plus any increase in the acidity due to standing at a high temperature. This increase does not usually occur, but, as it has taken place in a few cases in my work, it seems to me a reasonable precaution.

No. 2 shows the original acidity plus the increase in acidity due to the formation of acetic acid from the methyl acetate.

No. 3 shows the acetic acid produced by the saponifying action of the distilled water and the small amount of acid which is often present in commercial methyl acetate.

No. 4 shows the acidity of the original N/40 HCl plus the acetic acid liberated from the methyl acetate by the hydrochloric acid.

The calculations from these four determinations are simple and may be illustrated by an example from my notebook:

1. 10 c.c. of gastric juice allowed to stand for five hours at a temperature of 55 degrees required 6.2 c.c. of N/10 KOH to give the first pink tinge with phenolphthalein as an indicator.
2. 10 c.c. of gastric juice plus 2 c.c. of methyl acetate under exactly the same conditions required 64.9 c.c. N/10 KOH.
3. 10 c.c. distilled water plus 2 c.c. methyl acetate under the same conditions required 8.4 c.c. N/10 KOH.
4. 10 c.c. N/40 HCl plus 2 c.c. methyl acetate under the same conditions required 45.85 c.c. N/10 KOH.
5. 10 c.c. of the N/40 HCl, standardized by weighing the amount of silver chlorid produced, required 2.6 c.c. N/10 KOH to neutralize.

Hence:

$64.99 - (6.2 + 8.4) = 50.3.$
$45.85 - (2.6 + 8.4) = 34.85.$
$34.85 : 50.3 :: 0.091 : x.$
$x = 0.1313 =$ per cent. of free HCl.

The sources of error in the Hoffmann method are probably only the following, excluding, of course, the allowable limits of error:

1. Very dilute solutions of hydrochloric acid will give results that are slightly too high on account of the greater dissociation of the acid in dilute solution.

2. The organic acids will also act on the methyl acetate to a slight extent, liberating acetic acid, but this will be at most a very slight error, as the relative strength of acetic acid to hydrochloric is as 0.004 to 1. Lactic acid is as 0.009 to 1.

3. Neutral salts increase slightly the saponifying power of water, the increase, however, falling within the limits of error.

A table is appended showing the results of a number of comparative tests in which a comparison was made between the results afforded by dimethyl and tropeolin 00, with the percentage error based on the saponification number as the correct one.

COMPARATIVE TABLE OF TESTS.*

	Dimethyl Titration.	Tropeolin oo. Titration.	Saponification.	Dimethyl Error %	Tropeolin oo. Error %
1.	0.1292	......	0.1063	+21.54	......
2.	0.1456	......	0,1233	+18.08	......
3.	0.05096	......	0.03387	+50.16	......
4.	0.1147	......	0.1007	+13.90	......
5.	0.3722	......	0.3145	+18.34	......
6.	0.3640	......	0.2614	+39.25	......
7.	0.08372	......	0.03819	+119.2	......
8.	0.02912	......	0.02113	+37.81	......
9.	0.1583	......	0.1035	+52.98	......
10.	0.1729	0.1092	0.1112	+55.48	—1.79
11.	0.07644	0.06188	0.05154	+48.31	+20.06
12.	0.1565	0.091	0.0923	+69.61	—1.14
13.	0.2621	0.1784	0.1577	+66.22	+13.73
14.	0.0728	0.0364	0.03832	+89.98	—5.01
15.	0.1565	0.09828	0.1132	+38.25	—13.16
16.	0.1820	0.1602	0.1313	+38.61	+22.01
17.	0.2038	0.1201	0.1470	+38.64	—18.3
18.	0.2348	0.1911	0.1469	+59.83	+30.09
19.	0.1966	0.1656	0.1364	+44.13	+21.41
20.	0.09828	0.0637	0.0489	+100.9	+30.27
21.	0.1383	0.0582	0.0973	+42.14	—40.19
22.	0.1966	0.1529	0.1374	+43.08	+11.28
23.	0.0546	0.04368	0.0339	+61.06	+28.85
24.	0.0728	0.03276	0.0232	+213.80	+41.21
25.	0.2621	0.2475	0.2140	+22.48	+15.65
26.	0.2366	0.2002	0.1630	+45.15	+22.82
27.	0.1511	0.1183	0.1076	+40.42	+9.94
28.	0.2912	0.1711	0.1919	+51.75	—10.84
29.	0.1165	0.0728	0.08302	+40.32	—12.31
30.	0.2621	0.2330	0.1866	+40.46	+24.86
31.	0.1241	0.0584	0.06615	+87.62	—11.71
32.	0.0546	......	0.01433	+281.00	......
33.	0.1529	0.08008	0.09272	+64.91	—13.63
34.	0.1674	0.091	0.1347	+24.28	—32.44
35.	0.1820	0.1274	0.1256	+44.90	+ 1.43
36.	0.3349	......	0.1960	+70.87	......
37.	0.1674	0.1274	0.099	+69.10	+28.69
38.	0.2330	0.1820	0.1486	+56.78	+22.47
39.	0.1674	0.1602	0.1313	+27.49	+22.01

A CASE OF CHOLESTERIN STONES IN THE BRAIN AND CORD.*

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Following is a case of multiple *cholesterin* concretions found at autopsy in the brain and cord of a man who showed in life no signs referable thereto. About the masses there was a fibrillary overgrowth of neuroglia.

The patient was under clinical observation at the Boston City Hospital for a little over three weeks in the spring of 1904, on the medical service of Dr. C. F. Withington, whom I wish to thank for the use of his records. The patient was a man of 56, with extensive peripheral arteriosclerosis. For the most part he presented a plain history of cardiac disease growing worse: orthopnea, dyspnea, cyanosis, edema, all coming on in irregular spells, together with gradual enlargement of the heart area and feebleness of heart action, slight albuminuria, a fairly constant demonstration of a soft blowing systolic murmur at the apex transmitted to the axilla, and gradual development of dullness in lower backs. There were no signs directly referable to lesion of the nervous system. A frost-bite of the previous winter had failed to heal well in the right foot. He died a little unexpectedly during a slight apparent improvement in his cardiac symptoms.

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* From the Pathological Laboratory of the Boston City Hospital.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The autopsy showed general and extensive arteriosclerosis. The coronary arteries were extensively yellowed and stiffened. The aorta showed diffuse sclerosis with calcification. The sclerosis of the circle of Willis was unusually extensive; and its primary and secondary branches were involved. The heart showed considerable hypertrophy (weight, 615 grams) and diffuse yellowish thickenings of the mitral leaflets. The mitral orifice measured 11.5 cm.; the other valves were not abnormal. The heart muscle showed fine fat droplets in a very few fibers by the Scharlach R. method. Fresh extensive infarctions of the kidney were found, due either to thrombosis or to emboli, which had become in part organized. A hemorrhagic wedge-shaped area in the lower lobe of of the right lung was covered with fresh fibrin. The lungs in general were edematous and congested. The trunk showed little else abnormal save a fibrous pleurisy of the left side and chronic thickenings about the spleen and the liver. The organs of the trunk were examined by Dr. C. J. Duval, whom I wish to thank for his records.

The findings in the head were as follows:

Scalp, calvarium, dura normal. Sinuses contain fluid blood. Pia edematous, notably over vertex. Strips readily. Superficial veins contain no great amount of blood. Carotids yellow and stiff almost uniformly. Circle of Willis, with primary *and sometimes secondary branches, focally yellow and stiff.* Substance shows on external palpation no great variety of consistence. The brain is slightly moister posteriorly. The gyri are fairly firm. On section the substance of the anterior portions of the centrum semiovale in both hemispheres is of normal consistence. The posterior portions of the centrum semiovale are moister and softer than in front; brain substance clings to the knife on section. The edema and softening are more marked on the right hemisphere. At the junction of the gray and white matter of the posterior portion of the left middle tempero-sphenoidal convolution is a coherent, gritty, solid sliver of yellowish-gray material 1.5x1.0x0.3 cm., tightly adherent to the surrounding tissue. There is a similar spheroidal mass about 1 cm. in diameter, imbedded in the gray matter of the right inferior frontal convolution. Adjacent to this inferiorly about 1 cm. distant is a purplish-red, slightly translucent, smoothly cutting and slightly bulging area 1 cm. in diameter, in the inner zone of the cortex. Next this is a small indefinitely bounded area of moist, grumous, opaque, yellowish-gray material, possibly the product of occlusion of a medullary branch of the cortical arterial system; no embolus was found. No similar areas elsewhere. Ventricles contain more than a tablespoonful each of a clear fluid. Choroid plexuses slightly cystiform. Ependyma normal.

Basal ganglia normal and of the usual consistence, except in the middle of the left lenticular nucleus, which presents a stony mass 2 cm. in diameter and slightly flattened from before backward. The mass is closely invested by a thin fibrous capsule and does not shell out. On sawing the middle is found to contain soft opaque grayish material.

Isthmus, bulb and cerebellum normal. Cord: Pia edematous in the middle of the posterior columns of the lower cervical region are small, symmetrical gray areas, suggesting sclerosis. Gray matter everywhere retracts slightly from section surface. On the pia of lower dorsal cord is a single minute white calcified plaque.

Microscopic examination of the organs of the trunk showed a slight brown atrophy of the heart muscle, a hemorrhagic infarct in the lung surrounded by a zone of cocci, chronic passive congestion of liver (extreme) and spleen, infarction of the kidney with *zone of congestion* and leucocyte invasion, an adrenal with high blood content, and a pancreas without notable lesion. There was evidence of arteriosclerosis throughout the organs.

Microscopic examination of the brain and cord showed a moderate subpial gliosis in several places examined. The cortex cerebri, except near the cholesterin masses, was not greatly altered. The tissue of the cord showed very numerous corpora amylacea.

The reaction about the cholesterin masses in the gray matter is slight. A teased specimen from the capsule about the mass in the lenticular nucleus was fixed in formalin and mordanted with picric acid, followed by ammonium bichromate and showed hairlike masses of neuroglia fibrils.

More notable is the reaction about the miliary muscles in the white substance of the cord. These foci are grossly evident in sections of the cord fixed in Zenker's fluid, mounted in paraffin, and stained with phosphotungstic acid hematin. The cholesterin masses have become dissolved away; all that remains of a lesion is the cavity surrounded by a narrow zone in which nerve fibers and myelin sheaths are absent and replaced with a fine felt-work of neuroglia fibrils.

Flakes from various masses and from different portions of the large mass in the lenticular nucleus were found to consist chiefly of smaller and larger cholesterin crystals. No tubercle bacilli could be demonstrated among the crystals. One-half gram of material from the middle of the largest mass was injected into the groin of a guinea-pig, but tuberculosis did not follow.

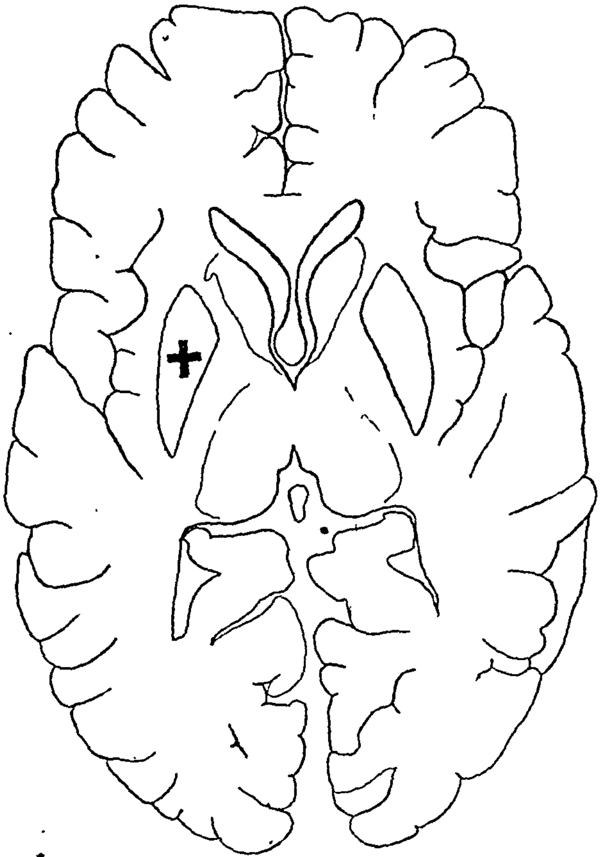

Fig. 1.—Diagram (Dalton, 1885, Series B, Plate vii) to show position of large cholesterin mass.

It is not possible at present to give an adequate explanation of this finding. The condition has nothing in common with cholesteatoma, excepting cholesterin, and fails to show the essential element of cholesteatoma, viz., an accumulation of desquamated epidermal cells. It is not possible to prove a relationship of the deposits with the remains of tubercles, of gummata or of multiple abscesses. It is possible that the deposits are related with old lesions of the blood vessels, perhaps with occlusions or with changes in the vessel walls; at any rate, there is unusually widespread arteriosclerosis in the case. Whatever their origin, it is harder to account for their accumulation in solid tissues than in a cavity like the gall bladder.

The chief interest of the deposits must for the present remain in their association with multiple foci of sclerosis. Deposits like those in the cord may readily be overlooked in routine examinations, and the small spaces occupied by the crystals may be taken for artefacts in preparation. A more careful fresh inspection of central nerve tissues, and especially of the cord, may bring out more of such miliary or larger glioses, to which the attention was drawn in the present case only by the presence of large masses in the gray matter of the cerebrum. The case can hardly be unique. With more cases the relationship of the cholesterin with old foci of suppuration or with vascular lesions may be demonstrated.

SUMMARY.

Male of 56 years. General and extensive arteriosclerosis, extending to gross involvement of some secondary branches of the circle of Willis. Death from heart failure. Small masses of pure or almost pure cholesterin crystals in several parts of the cortical and central ganglionic gray matter and in the white matter of the spinal cord. Largest mass, 2 cm. in diameter, in middle of left lenticular nucleus. Thin capsules due to fibrillary overgrowth of neuroglia surround the masses. The relation of cholesterin to miliary glioses in the spinal cord may readily escape attention.

Special Article

IMMUNITY.

CHAPTER XXXIV.

BACILLUS OF FRIEDLANDER AND OTHER MEMBERS OF THE CAPSULE-FORMING GROUP.

Capsulated Bacilli.

The bacillus of Friedlander, or *Bacillus pneumoniæ*, is the type of a rather large group of bacteria, called the Friedlander group, or the group of *Bacillus mucosus capsulatus*. In addition to the ability to produce a mucus-like capsule or envelope, they have in general the following characteristics (Abel): short, plump rods, varying in their proportions, having no motion, no flagellæ, no spore formation, and not staining by Gram's method. They form mucus-like masses in cultures, do not liquefy gelatin and are facultative anaërobes. They are widely distributed in nature, vary from innocuousness to extreme pathogenicity for animals, are rarely found in the mouth, nose and bronchi normally (bacillus of Friedlander), one type being a normal inhabitant of the intestines, especially in children (*B. aërogenes capsulatus*). In man three members of the group—they may be the same organism or variations of a type—are of interest from the standpoint of infection: Bacillus of Friedlander, the bacillus of rhinoscleroma and the ozena bacillus.

Pneumonia Caused by Friedlander's Bacillus.

In 129 cases of acute inflammation of the lungs, Weichselbaum found the bacillus of pneumonia nine times, twice with streptococci and once with the diplococcus of pneumonia. The organism causes lobular pneumonia more frequently than lobar. The homogeneous non-granular surface, and the large amount of fluid of a viscid or mucous consistence, are characteristic anatomic features. The alveoli contain massive numbers of the bacilli. The bacillus of Friedlander is found also as the cause of pyelitis, cystitis, pyelonephritis, serous or purulent pericarditis, and pleuritis and menengitis, which may be accompanied by brain abscesses. Meningitis when produced by this organism usually or always is secondary to infection in other parts of the body by the same organism (middle ear and accessory sinuses of the nose).

Rhinoscleroma and Ozena.

An organism of the Friedlander type is found with few exceptions in the tissues in rhinoscleroma, and by many is considered as the cause of the condition. A similar organism is found constantly in the secretions and crusts in ozena. Antiserums of distinct power have not been obtained for members of the group. Prolonged immunization with some strains yields an agglutinating serum of low value. The agglutination reaction is of no value for identification of the different members of the group, nor for clinical diagnosis.

EPIDEMIC CEREBROSPINAL MENINGITIS.

Microbes Causing Meningitis.

Acute inflammation of the meninges may be caused by a number of micro-organisms: *Micrococcus meningitidis*, also called the *Diplococcus intracellularis meningitidis*, or briefly the meningococcus; *Diplococcus pneumoniæ; Streptococcus pyogenes; Staphylococcus pyogenes; Bacillus influenzæ; Bacillus pneumoniæ; Bacillus typhosus; Bacillus coli communis; Bacillus mallei; Bacillus pestis.* The first two of this number, the meningococcus and the pneumococcus, in addition to causing sporadic cases, also produce more or less extensive epidemics of so-called primary meningitis. That the pneumococcus may also cause meningitis secondary to pneumococcus infections in other parts of the body has been mentioned. Also the meningitis caused by the other pyogenic cocci usually is secondary to some other suppurative focus, often the middle ear; that caused by the organisms of typhoid, glanders, plague and influenza occurs during the course of the diseases caused by the corresponding micro-organisms.

Micrococcus Meningitidis.

Previous to 1887 diplococci resembling the *pneumococcus* had been found in the exudate in cases of cerebrospinal meningitis by Foà and Bordoni-Uffreduzzi, by Fraenkel and others. Weichselbaum made similar observations during the same year, and in addition described six cases in which a diplococcus of another nature was present in pure cultures. To the latter he gave the name of *Diplococcus intracellularis meningitidis.* Extensive observations by others, both in Europe and America (Councilman, Mallory and Wright, and others), revealed the presence of the last named organism in many instances, and showed that it is the most common cause of epidemic cerebrospinal meningitis.

The meningococcus resembles the gonococcus closely in that it is usually found in biscuit-shaped pairs, nearly always within pus cells, and does not stain by Gram's method (Weichselbaum). It is properly to be called a micrococcus since it divides in two transverse directions (Albrecht and Gohn); tetrads, small groups and short chains are sometimes seen. However, it forms no striking chains, is non-motile and produces no spores. Growth may be obtained on some of the ordinary media (glycerin agar), in which the organism differs from the gonococcus, but a medium which contains blood or serum is much more favorable. It is an obligate aërobe, grows best at the body temperature and virulence is soon lost under artificial conditions.

It produces a membrane on meat broth with clouding of the medium. Viability is retained for only a few days at room temperature. When dried on paper and exposed to the sunlight it lives no longer than twenty-four hours, in a dark room seventy-two hours (Councilman, Malory and Wright). It is killed by a temperature of 65° C. for thirty minutes (Albrecht and Gohn).

Virulence; Endotoxin.

The meningococcus has little virulence for animals. When injected in sufficient quantity into the peritoneal or pleural cavity of white mice death results in from twenty-four to forty-eight hours, but not when given subcutaneously. Meningitis may be produced by subdural injections, but the disease does not resemble the epidemic meningitis of man. So far as is known at the present time the organism does *not* produce a soluble toxin, but possesses rather an endotoxin.

Infection Atria.

Although the disease is usually spoken of as a primary meningitis, there is reason to believe that it is secondary to an acute rhinitis or acute inflammation of the accessory sinuses or middle ear, at least in many instances. From these places the coccus may readily reach the meninges by way of the lymphatic channels. The organisms have been found repeatedly in the noses of those who were associated with cases of the disease; in such cases an acute rhinitis may be present without the subsequent development of meningitis. Clinical histories of the cases show that the infection commonly is preceded by acute rhinitis. The inflammation in the meninges is always cerebrospinal in its distribution and is characterized by a purulent or fibrino-purulent exudate in which the diplococci are present in varying quantities. Diagnosis may often be established clinically by the microscopic or cultural examination of the cerebrospinal fluid which is removed by lumbar puncture.

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Acute encephalitis, acute bronchitis, lobar pneumonia and acute arthritis have been observed as complications, in which organisms resembling the meningococcus have been found in a number of instances. An accompanying bronchitis, lobar or lobular pneumonia may be caused by mixed infection with other organisms (pneumococcus, streptococcus, staphylococcus). Since it would be difficult to explain some of these complications except on the basis of metastasis, it seems very probable that the organism reaches the blood stream. Micrococci resembling the meningococcus have been found in acute bronchitis, rhinitis, lobular pneumonia and conjunctivitis, in the absence of cerebral involvement, and it is possible that it may be the cause of independent inflammations in these tissues. Weichselbaum, however, is inclined to doubt the identity of such organisms with the meningococcus. Particularly in cases of bronchitis and lobular pneumonia the coccus may be confused with the *Micrococcus catarrhalis* of Pfeiffer, with which it is identical morphologically.

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Since the organism seems to be excreted chiefly or only with the nasal discharges, the latter probably are important for transmission of the infection. Because of the low resistance of the organism to desiccation and light, transmission probably is a fairly direct one. This is suggested also by the occasional occurrence of epidemics in institutions. Contagiousness probably is of a rather low order; this is indicated by the distribution of the 111 cases observed by Councilman, Mallory and Wright in Boston, the city being somewhat diffusely infected with very little tendency of the disease to occur in groups of individuals or in several members of a family.

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Clinical Notes

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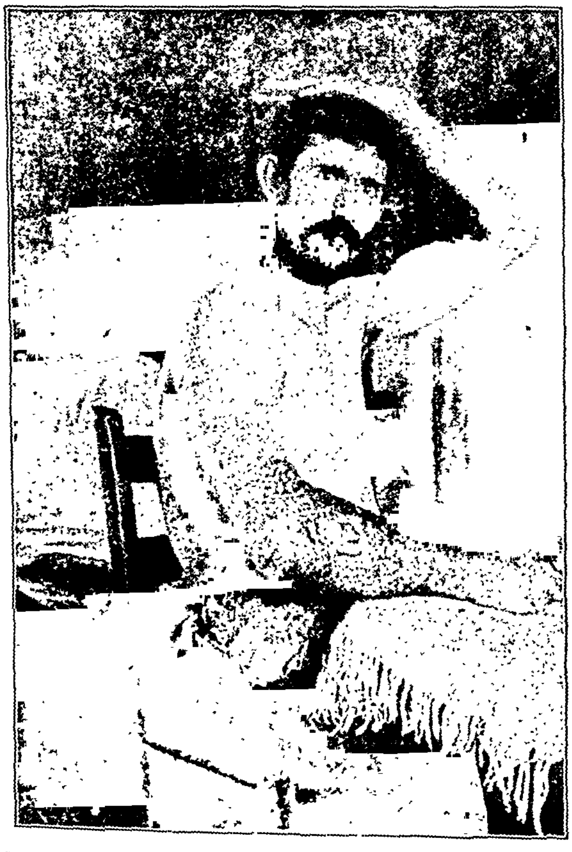

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Phagocytosis.

In the purulent stage of a gonorrheal infection the cocci are found almost entirely within the leucocytes, whereas in earlier stages, when the discharge is slight and of a mucous character, and also during convalescence, when the secretion again becomes mucous, they are largely extracellular. They are never within the nuclei. The process is one of active phagocytosis in which the cocci play a passive rôle. They occur not only on the surface of the epithelium, but penetrate between and beneath the epithelial cells, and even into the adjacent connective tissue.

Cultivation and Resistance.

In culture media growth is slow and scant, and cultures rarely live longer than one or two weeks, unless they are transplanted to fresh media. On the latter they may be carried through many generations without losing their virulence. When dried they die very quickly, but may live for some hours on linen (towels) or the skin, and for twenty-four hours in warm water. They are very susceptible to temperatures above 42 to 43° C. and show very little resistance to antiseptics, particularly the silver salts.

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[1] The conclusions of Dr. Davis, in part, are as follows: In five cases of epidemic cerebrospinal meningitis, the meningococcus (Weichselbaum type), was obtained in every case from the cerebrospinal fluid, and in one case from the nose and sputum by cultures. In the other four cases Gram-negative diplococci suggestive of either meningococcus or *Micrococcus catarrhalis* were seen in smears, but were not recovered in cultures. Agglutination of meningococcus by the serum of patients with meningitis occurs in a dilution of 1-50 or higher. The meningococcus grows in some defibrinated normal bloods, but not in others, there being thus an interesting individual variation. In the blood of three meningitis cases it did not grow. Normal human serum is distinctly bactericidal toward the meningococcus. This property is increased in the sera of meningitis cases, and is diminished but not entirely destroyed by heating to 60 C. for thirty minutes. Cerebrospinal fluid acts in much the same way as heated serum. The opsonin content of the blood does not appear to be altered during the course of epidemic meningitis. Normal cerebrospinal fluid does not contain opsonin for meningococci.

The paper of Dr. Davis will be published in full in the forthcoming number of The Journal of Infectious Diseases.

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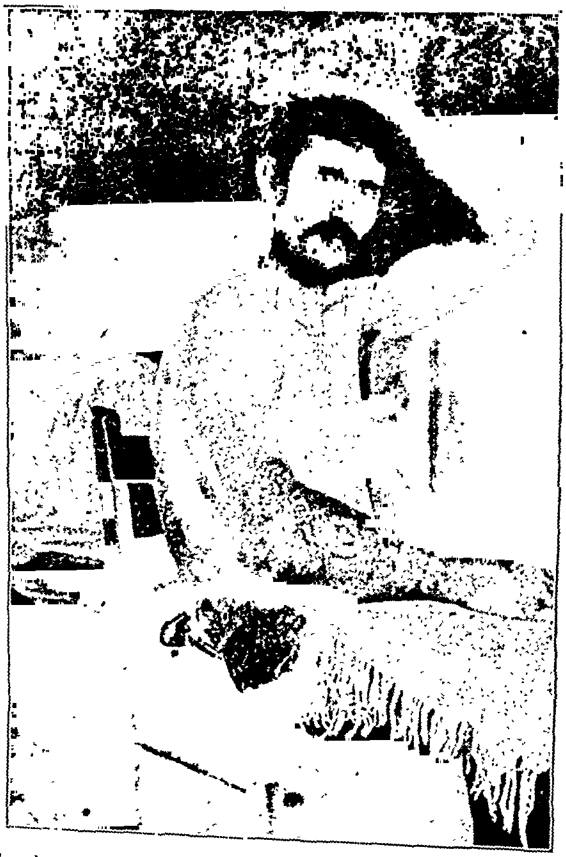

photograph was taken August 17, about eighty-two hours after the injury. There was only a little sloughing at the point of injection of the poison, but the man was incapacitated for work about thirty days. As to treatment, the arm was corded tightly, an abundance of whisky was given, and hypodermic injections of strychnin 1/40 g. ever forty-five minutes. He has gone to work and has a good arm.

FATAL CASE OF BLACKWATER FEVER SUPERVENING ON AMEBIC DYSENTERY AND SHOWING MALARIAL PARASITES IN THE BLOOD.[*]

F. CREIGHTON WELLMAN, M.D.
BENGUELLA, WEST AFRICA.

Patient.—Lieutenant M. de G., aged 26, Portuguese, was first seen Dec. 20, 1904.

History.—The patient had been in Africa two years. The first year and a half of this time were spent on the coast, the last six months in the interior. He has never suffered much from malaria nor blackwater fever. Recently he was again sent to the coast, where he spent three weeks. As he was leaving to return to the interior he was attacked with a sharp diarrhea and passed some blood. He recovered in a few days and continued his journey. He has had some looseness of the bowels, with occasional pains, ever since. After his arrival at Bihi fort he had a relapse of the "diarrhea" and was in considerable distress and very weak. He thought he also had some fever, so he came to me for advice.

General Condition.—The patient was thin, weak and feverish. He had no appetite. His tongue was foul. Temperature was 102.4 F., pulse 93, respiration 28. The spleen was slightly enlarged. There was tenderness over the lower bowels. The other organs were normal. At stool there was moderate tenesmus. He had taken no medicine except a diarrhea mixture, ingredients unknown. He considered this the second day of his disease (relapse).

Examination of Feces.—The stools were small and unformed, consisting almost entirely of blood and mucus. There was one moderate-sized slough. Under the microscope many amebæ morphologically identical with *Amœba coli* (Lösch) were seen.

Examination of Blood.—Both fresh and stained specimens were examined, one of each. In the latter two malarial parasites were seen; both were small intracapsular forms. The result of a differential leucocyte count was as follows (about 50 cells counted):

Polymorphonuclears	51.5	per cent.
Lymphocytes	26.	per cent.
Large mononuclear	17	per cent.
Transitional	3	per cent.
Eosinophiles	2	per cent.

The initial and succeeding erythrocyte counts are shown in the chart.

Examination of Urine.—The urine was dark but clear. The spectroscope revealed none of the compounds of hemoglobin. There was a trace of albumin.

Course of the Disease.—The patient was placed in bed (11 a. m.), and small doses of Epsom salts in solution every hour were prescribed. He was placed on liquid diet with a little brandy. In spite of frequent sponging of the body the temperature steadily rose until 5 p. m., when the hemoglobinuria set in.

Re-examination of Urine.—After the hemoglobinuria set in, the urine was re-examined; the color was about like that of porter or stout. There was a dirty-gray sediment, showing under the microscope débris, masses of hemoglobin, and some hyaline and granular casts. The urine was not spectroscoped at first. In later specimens the bands of both oxyhemoglobin and reduced hemoglobin could be seen by shaking up the urine, examining it, adding ammonium sulphid and examining again.

Further Course of the Disease.—*Amœba coli* persisted in the stools (which showed some improvement) throughout the attack, but malarial parasites were not demonstrated in three successive blood examinations. On the morning of the sixth day of the disease the temperature was found to have spontaneously fallen to 101 F. The following day severe hiccoughs set in which nothing availed to control. The patient died at *4:20 p. m. on the twelfth day.*

Treatment.—The treatment pursued was entirely symptomatic and expectant. The saline routine for the dysentery, liquid nourishment and stimulants were administered for the weakness and the usual ineffectual gamut of sedatives and other devices were tried to control the hiccoughs. Quinin was not administered at any period of the attack as hemoglobinuria was feared from the first.

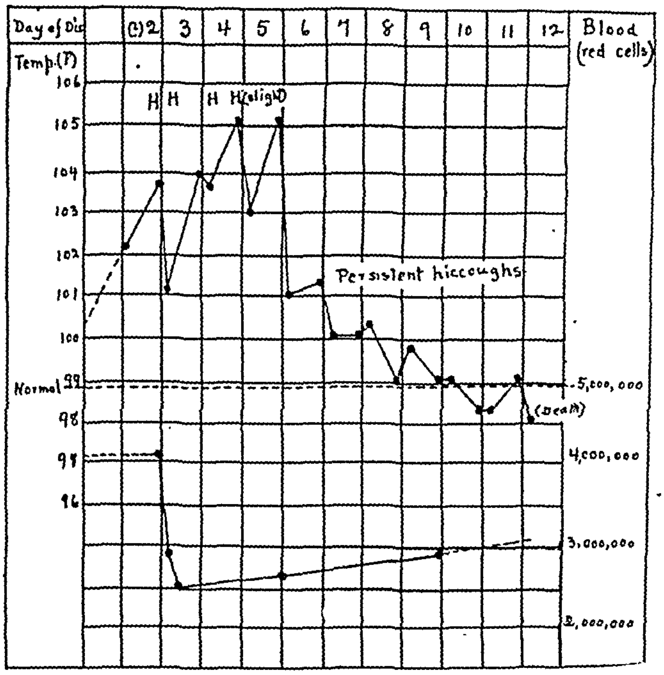

Chart 1.—The blood counts were made on the Thoma-Zeiss hemocytometer. In the first two counts, the blood was also centrifuged and the reading on the hematocrit compared with the result of the actual count. H = hemoglobinuria.

REMARKS.

1. This is the thirty-fourth case which I have studied more or less carefully in West Africa. Of this series 29 patients recovered.

2. The case just recorded is the only instance in which death occurred during the first attack. This may be explained by the previous and synchronous dysentery.

3. In three cases malarial parasites were seen in the blood immediately preceding the hemoglobinuria. In the present case the return of the dysentery probably brought about an explosion of latent malaria, and the two conditions combined were able to produce the physiologic depression and hypotonicity of the blood that invited the intercurrent hemoglobinuria.

4. The question of the relation between malaria and blackwater fever is of great interest, but too intricate to be discussed in a paper of this kind. I believe that they are related in some way, and I have shown that in southern Angola the geographical distribution of *Myzomyia funesta*, Giles (the principal carrier of *H. præcox* in West Africa), severe malaria and hemoglobinuric fever closely coincide. The precise character of the relation between the two diseases (which is disputed by some) has not yet been shown.

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[*] Published under the auspices of the American Society of Tropical Medicine.

CLIMATIC TREATMENT OF CIRCULATORY DISEASE.

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During the past four years it has been my good fortune to witness the beneficial effect of certain climatic conditions on certain forms of circulatory disease. It has, indeed, been a surprise to myself, accustomed to city conditions, to see how much is accomplished by treatment of certain cases of secondary low arterial tension, even when accompanied by such accidents as hemiplegia, in the climate of the lower Maine coast.

My observations were made at York. The first case was one of secondary low arterial tension following high tension in a man who had had a prolonged and anxious business strain. While under this strain this man suddenly developed hemiplegia and aphasia. When I saw him he was suffering from these conditions. The heart was dilated; there were loud murmurs at the base and apex. He could not make any exertion without shortness of breath, and was extremely depressed. In other words, he was suffering from all signs of a marked deterioration of the circulatory apparatus. The improvement in this case was very marked, so that by the end of the summer the man was able to take long walks, his paralysis and aphasia were much improved, and a process was checked which had every indication of progressing to a fatal termination.

Another case was that of a woman, also suffering from right hemiplegia and slight aphasia, in whom the secondary low arterial tension was just commencing. She also made vast improvement by the end of the summer, and had even for the time being recovered from the tendency to high tension.

The third was a case of a woman with low arterial tension secondary to an exhausted nervous system and the high tension of nervous strain. She also improved very much, but, the cause not being removed, the improvement was not so marked.

Now, it may not seem that climate had much to do with these cases, but a study of the effect of the climate and an analysis of its characteristics make it evident that for this class of cases the summer climate of lower Maine coast is particularly beneficial. The climate of the lower Maine coast has a remarkable combination of dryness with sea air and low temperature in summer. It is beneficial in all cases of physical exhaustion and to patients who require a restoration of the vitality after disease. The climate is wonderfully stimulating to nutrition. On the other hand, it is not beneficial to patients suffering from purely functional nervous diseases requiring rest. These patients are overstimulated and are apt to suffer from restlessness and insomnia. Still, patients with a tendency to melancholia and depressed conditions are much improved. The physical effect of the transition from the climate of New York to the climate of the lower Maine coast is really remarkable. Those unaccustomed to the change find a longer stay than six weeks too stimulating. So that many persons who make their summer home there find it beneficial to go inland to a less exciting climate for a rest in the middle of the season.

We all know how difficult is the task of restoring what we call vitality. This is a word so frequently on the lips of physicians that I have noticed that when first used to a new client it often excites a smile on the part of the patient. One said the other day: "Please do not talk any more about that thing you call vitality." Whether we talk about it or not, it is an important element with most chronic invalids, and it is the element that has seemed to me most benefited by this particular climate. The drawback with most seashore climates is the great dampness. The lower Maine coast escapes the fogs which are so prevalent to the north and south. The ocean is very shallow and the shore recedes here so that the fog bank lays off the coast, within sight, but seldom reaches the land.

The Survival of the Fittest.—Modern medicine has been accused of helping to deteriorate the human race, by preserving the weaklings, and thus arresting the law of the survival of the fittest; but surely preventive medicine is enabling the nations that are intellectually fit, to survive, while those steeped in ignorance, are decimated by preventable diseases.—Hanbridge, in *Albany Med. Ann.*

A METHOD FOR THE RAPID PREPARATION OF FRESH TISSUES FOR THE MICROSCOPE.

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ROCHESTER, MINN.

While engaged in general pathologic work I shared the common distrust of frozen sections of fresh tissues for microscopic diagnosis. On taking charge recently of the laboratories of the Drs. Mayo, surgeons, I carefully tested the various methods hitherto published and found them either too slow for results while the patient waits under the anesthetic or else giving poorly differentiated cell detail. After considerable experimentation the following technic was discovered, and for the last six months it has given uniformly excellent preparations:

1. Bits of fresh tissue not more than 2x10x10 mm. are frozen in dextrin solution and cut in sections of from 10 to 15 microns thick.

2. The sections are removed from the knife with the tip of the finger and allowed to thaw thereon.

3. The sections are unrolled with camel's-hair brushes in 1 per cent. NaCl solution.

4. The sections are stained from 10 to 20 seconds in neutral Unna's polychrome methylene blue.

5. They are washed out in 1 per cent. NaCl solution.

6. They are mounted in Brun's glucose medium.

The microtome which I use is the Spencer automatic with a CO_2 attachment in which vulcanite is substituted for brass in the wall of the freezing chamber, thus insulating the freezing plate. Thawing the section on the finger prevents to a great extent the formation of bubbles. The well-made camel's-hair brushes used by artists are much more useful for handling tissues than those usually furnished by laboratory supply houses. A heavy, shallow watch glass over a black surface is the best receptacle in which to unroll sections. Sections are best handled in the stain folded over a lifter made of a small glass rod drawn out and bent at convenient angle. The section is kept constantly moving while it is in the stain. The stain is contained in a minute cup to facilitate the rapid recovery of the section should it slip from the lifter. Washing out is done in several ounces of salt solution in a white porcelain dish and is continued only while the stain comes away freely. Brun's glucose medium (which is made by mixing distilled water 140 c.c., glucose 40 c.c., and glycerin 10 c.c., then adding camphorated spirit 10 c.c. and filtering), is held in an oval dish of porcelain (an "undecorated match safe") of such a size that a three-inch slide will rest in a slanting position, with one end in the bottom of the dish and the other on its edge. The section is spread out on the slide while it is in this position. The slide is then carefully withdrawn from the dish, the excess fluid removed, a cover-slip dropped over the section and the specimen is ready for the microscope.

The whole process can be gone through in one and a half minutes from the time the tissue is placed on the freezing plate of the microtome until the stained specimen is on the stage of the microscope. The resulting coloring is uniformly good with the tissue elements sharply contrasted in red, purple and dark blue.

A diagnosis may be made from such preparations in a large percentage of surgical cases in which a diagnosis is possible by a study of sections of the same thickness cut from fixed tissues and stained with hematoxylin and eosin.

FRACTURE OF BOTH CLAVICLES.

SCHUYLER W. HAMMOND, M.D.
RUTLAND, VT.

On Oct. 17, 1905, Mrs. H. W. H., aged 54, while running clothing from a second-story window out on an endless rope, was precipitated 15 feet below by the breaking of the rope.

Careful examination revealed fracture of the right clavicle at its outer angle and of the left clavicle at its middle. The patient also suffered separation of the os innominatum from the sacrum at the right sacroiliac synchondrosis, with some traumatism to the sacral plexus of nerves.

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COUGHS AND COLDS.

The sudden changes in the weather during the period when fall is gradually passing into winter are likely to be the occasion for a number of ordinary colds. Because of the presence of these, it not infrequently happens that pulmonary affections of serious significance are thought to be no more than a simple cold. The cough, it is true, is likely to be much more persistent, but then, according to an old popular tradition, midseason coughs are supposed to be more liable to persist. It is easy to understand, then, how too little may be made of a cough, and, as a result, a patient may be allowed to lose precious time at the beginning of active pulmonary tuberculosis, each day of whose progress makes the ultimate prognosis a little less favorable. Tuberculous patients who continue their ordinary occupations are almost sure to have their symptoms gradually grow worse and their tuberculosis more active, and the possibility of an incipient case becoming fairly well advanced during the delay can be readily understood.

Those in charge of large sanatoria for the treatment of tuberculosis insist that the ordinary general practitioner does not recognize pulmonary tuberculosis soon enough for a cure to be possible in most cases in which the patients are sent away for sanatorium treatment. The physical signs and symptoms for which he waits before pronouncing the case certainly tuberculous are those of advanced and not of incipient tuberculosis. Dr. Trudeau, whose opinion in this matter is to be respected, said: "The average medical man's idea of tuberculosis only relates to the disease after the rational and physical signs have become well marked."

In a recent article, Dr. Willson[1] has collected the first subjective symptoms of 86 cases of tuberculosis that had been studied with special relation to the subject. As it is because of subjective symptoms that the patients present themselves for treatment, the importance of this method of viewing the question can be readily understood. In nearly all the cases, the first symptom noted was a persistent cough without a recognized cause. This often had its origin in what seemed to be an ordinary cold, and not infrequently disappeared after a time, only to be renewed on what seemed some trivial provocation. Usually in the intervals when there was no genuine cough, there was a frequent necessity of clearing the throat and a little hacking cough utterly unproductive and apparently due only to some irritation of the larynx was noted. It is these forms of unproductive cough for which there are so many and various names. We have all heard of a stomach cough, the gynecologists occasionally speak of the uterine cough, some have not hesitated even to use the term ovarian cough, there is a laryngeal cough, of course, a kidney and nervous cough, and then the ophthalmologists sometimes speak of a cough due to the lack of correction of some error of vision.

It seems clear that in most cases the use of these special designations for unproductive coughs that hang on is fraught with serious danger. In nearly all cases, a persistent cough is due to irritation of the lungs or of the larynx consequent on the presence of the tubercle bacillus. Long before there is any question of the presence of tubercle bacilli in the expectoration, this cough will manifest itself and will not disappear completely under any ordinary treatment that does not recognize the necessity for out-door air and constitutional upbuilding. The so-called stomach cough is especially deceptive, since not infrequently the presence of tuberculosis in the system is manifested very early by a disturbance of the digestive function.

It is clear, then, that far from its being advisable to make little of a persistent cough, it is our duty to emphasize the necessity for finding out exactly what is the cause of it. Not infrequently it will be comparatively easy to find some other symptoms or physical signs that will add to the suspicion of tuberculosis in the case. Sometimes there will be no more than a tendency to rapid pulse on very little exertion, or a slight rise of temperature or a temperature normal in the afternoon, but distinctly subnormal in the morning. If any of these symptoms are present then the suspicion is more than confirmed, and until the cough can be relieved the question of tuberculosis must be allowed to remain open. At times such patients will say that they have cold hands and feet, with a tendency to perspire rather freely, either after slight exertion or after becoming thoroughly warmed in bed. Indeed, it is rather surprising how many important details can sometimes be brought out by careful questioning in what at first seemed to be "only an ordinary cold."

It is better to be frank with tuberculous patients rather than to follow the old policy of euphemistically glossing over conditions in order to save the patient a shock. For those who have not tuberculosis, frankness will have no bad effect, even if it should not be quite justified, and if it leads them to improve their physical condition so as to remove the suspicions that have been aroused, it will surely do good. Our best phthisiologists insist that this policy would save many lives every year, which is indeed a consummation to be devoutly wished.

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[1] International Clinics, vol. ii, 15th series, p. 50.

THE DIAGNOSIS AND TREATMENT OF RENAL TUBERCULOSIS.

In these days of indiscriminate surgery, when the advent of asepsis allows and encourages the use of the knife by those who are not prepared to use it, the thinking internist is in danger of taking too conservative a view as to the necessity of operative procedures in certain classes of cases. Among the conditions which stand on debatable ground so far as operative indications are concerned, renal tuberculosis must be mentioned. There are many who believe that this condition is essentially a medical problem, and that operative treatment is to be resorted to only as a last chance, and this view is held even by genitourinary surgeons of note. In a paper before the recent Congress on Tuberculosis, Albarran,[1] who has certainly earned the right to speak authoritatively on this subject, discusses the problem in a very lucid manner. The decision as to whether a given condition is to be considered in the province of the physician or of the surgeon depends on a variety of circumstances. In dealing with tuberculosis in paired organs, like the kidneys, the problem is simplified by the fact that one can be removed with relative impunity provided that the other be intact. The main questions to be answered, then, are these: How frequently are the kidneys unilaterally affected in this condition? What is the usual outcome in cases treated expectantly on purely medical lines? How does the mortality under surgical treatment compare with that under medical?

These questions are taken up seriatim by Albarran, and are answered by quotations from his own statistics and from those of other observers of experience. Unilateral involvement in renal tuberculosis is the rule rather than the exception, it occurs in at least 85 per cent. of the cases, and in the majority there is no serious involvement of other organs, a point of great importance. It is true that in most cases there are symptoms which would lead the inexperienced to believe that the bladder also is infected, but the use of the cystoscope has shown conclusively that, at any rate early in the disease, the bladder lesion is of an irritative character, and is not a true cystitis. Even when signs of early lung involvement are present, a not unusual complication, experience has shown that operative intervention is rather of benefit than otherwise. The history of these cases under medical treatment is far from encouraging. Spontaneous healing is known, but is rare, and when it occurs is always due to the blocking of the ureter by the inflammatory process, a condition which throws the affected kidney out of function just as effectively as surgical removal, but is less satisfactory than the latter procedure on account of the length of time it consumes and the fact that it still leaves in the body a latent focus of disease which at any time, even years after the ureteral blocking, may again become active and cause the death of the patient. In most cases the progress under medical treatment is a slow but a steady downhill progression. Tuberculosis of the bladder, with its long-drawn agony, is followed by ascending infection of the sound kidney, or generalization of the disease, and the patient dies a lingering and painful death. In competent hands, the removal of the kidney is in itself an operation with slight mortality. Albarran lost but 3 per cent. of his cases, and the combined mortality of the six operators who have reported the largest series of cases totals 7 per cent. This is certainly a vast improvement over the mortality under medical treatment.

As in other conditions in which surgical intervention is of aid, its value often depends, in part at least, on the early recognition of the disease. This means that the general practitioner must learn to recognize, or at any rate to suspect, the presence of this condition at an early date. The specialist has at its command methods of diagnosis which, of necessity, are not available to the average physician. Catheterization of the ureters, of which the genitourinary surgeon speaks so glibly, is an operation requiring a good deal of skill, a large amount of experience, expensive instruments, and an amount of time which the ordinary physician does not possess. Yet it is the procedure *par excellence* in the diagnosis of early kidney tuberculosis. The practitioner must rely on other and more common methods of observation, and Albarran briefly sketches what he considers the more important of these. The history of vesical irritation, with more or less pain on urination, and the passage of a pale, slightly cloudy urine, is of importance. If a definite cystitis is present, its occurrence without definite cause, its aggravation under local treatment, and the absence of the ordinary micro-organisms from the urine are all suspicious circumstances. Attacks of spontaneous hematuria should be looked at askance, especially if they are not modified with rest, are painless, or are at most accompanied by vague painful sensations in the region of the kidneys. Naturally an examination of the urine for tubercle bacilli is called for, and it is to be remembered that the fresher the specimen the better the chance of finding the bacilli. The finer methods of diagnosis must often be left to the specialist. Early diagnosis is the key to success.

BALANTIDIUM COLI.

The infusorium, *Balantidium coli,* as the cause of human intestinal infection, was described first by Malmsten of Stockholm in 1857. Since then, something like 117 cases have been recorded, according to the recent summary by Strong,[1] and there seems all reason to believe that this parasite may give rise to diarrhea, sometimes serious and often persistent. It is an oval-shaped, ciliated organism, from .07 to 0.1 mm. in length by from .05 to .07 mm. wide, capable of motion and of some change in form; reproduction may take place in three ways, viz., by division, the most frequent; by budding, and by conjugation. It may undergo encystation.

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[1] Presse Médicale, 1905, No. 80. Abstract in The Journal on page 1526.

[1] Bulletin of Government Laboratories, Manila, No. 26, Dec. 1904.

Balantidium coli occurs with great frequency in the colon and cecum of the hog, which is regarded as its proper host, and in which it appears to be a harmless commensal. It is not known how human infection takes place; water, in which the organism may live for a long time, may be the means and perhaps also uncooked sausage meat and other forms of food.

The majority of the reported human cases are from Russia (51); in proportion to the population, a relatively large number of cases have been described in Sweden (30) and Finland (13). Only one case[2] is credited to North America, and this occurred in a German farmer in Iowa, engaged in hog raising and sausage making; the diagnosis was made in Germany, the patient having returned home for treatment for fatigue, weakness, and pain in the abdomen to the left and below the navel. He had no diarrhea, but the feces contained undigested food. Strong and Musgrave have described a fatal case from Manila.

In the 117 cases collected by Musgrave, diarrhea or dysentery existed in all but 2, the feces often containing mucus and blood. Colic, tenesmus, abdominal swelling, nausea and vomiting may occur. Only two of the cases were in children. Twenty-five per cent of the patients gave a history that pointed to infection from the hog. When the intestinal lesions are not far advanced and the strength of the patient permits it, continued local treatment may drive away the parasites. Quinin and other substances have been used in enemas with success in the hands of some observers, while others report failure.

Of 111 patients 32 (29 per cent.) recovered, 30 per cent. died, and in a number of these other diseases were present. There have been 32 autopsies on patients known to harbor *Balantidium coli* and to suffer from diarrhea and other symptoms, and in 28 there were ulcerations of the large intestine, but the type of ulcer does not appear distinctive. Parasites were found postmortem in 21 cases, and histologic studies were made in only 7. In Strong and Musgrave's case living parasites were found in all parts of the large intestine and in the lower 4 or 5 cm. of the ileum, and in this case, as well in Solojew's case, the parasites had invaded the coats and vessels of the large intestine. Polynuclear eosinophiles were numerous about the parasites. In an outbreak of dysentery among the orang-outangs in the New York Zoological Garden, Harlow Brooks demonstrated balantidia in the feces, as well as in the coats of the large bowel, which presented the same changes as in the recently studied human cases. In order that the parasites may be recognized in the tissues it is necessary to secure early postmortems, as dead parasites disintegrate quickly, so that they can not be recognized in the sections.

There are many points in connection with the pathogenesis of balantidium infection that require further study. Thus the question whether the balantidium by itself can penetrate the normal mucous membrane is still an open one. Furthermore, the meaning of the presence of the infusoria in the blood vessels of the intestine, now noted in several cases, raises some interesting problems. Strong's summary gives a good basis for further work along these lines.

SUICIDE PREVENTION.

The enterprising mayor of Cleveland, who has achieved a national reputation by his advanced ideas on sociologic matters, has appointed, it is said, an anti-suicide commission, that is, a body of experts who shall devise ways and means of preventing the despondent and destitute from self-destruction. Suicide is increasing and is becoming more than ever a matter for concern to the well-wishers of the race. Many suicides can undoubtedly be accounted for by mental aberration, either actual insanity or temporary morbid impulse. With the increase of insanity suicide would also naturally increase. It seems doubtful, however, that we can properly attribute the very notable increase of self-destruction to these causes alone. The too prevalent pessimistic tendencies of the present time are probably still more responsible. To a despondent and suffering individual who can see no prospect of betterment, suicide often appears to be a rational—though not at all a heroic or praiseworthy—procedure, and the impulse may easily overcome both the natural instinct of self-preservation, and the inherent fear of consequences in a future life. Purely ethical considerations alone will not prevent it, though they have their influence. While the actual pathologic causal factors above mentioned mainly interest us as medical men, we can not altogether overlook the social disease that we believe is the main cause of the growing evil of to-day.

POLITICAL INFLUENCE.

In the organization of modern society the currents and counter-currents of interest and prejudice are not always easy of determination. The profession of medicine should present to society active evidence of absolute solidarity on all questions affecting the public health. Of course, we are at times unable to agree on a line of conduct on some particular topic, but one of the great benefits of organization is the opportunity afforded to thrash out debatable points among ourselves and then to present to the world the digested result. Frequently it becomes necessary for the professional units to make their influence felt on some particular problem. In many cases all that the organization need do is to disseminate the facts, leaving to the individual the decision as to the part he will play, while in others it is necessary for the profession openly to declare itself. In the elections this year, so far as known, there was no instance of medical societies acting officially, but there is reason to believe that in several states medical men had a share in bringing about the election of independent and reform candidates. In Philadelphia the medical men were in the front in the fight against the boodlers. In Ohio it is reported that professional sentiment was so strongly crystallized that five thousand physicians voted and worked against Governor Herrick, who was a candidate for re-election. The one chief reason for this unanimity of sentiment was the matter of the management of the Ohio Hospital for Epileptics, concerning which our readers were at the time kept fully informed. The governor gave aid and comfort to the politicians who wanted the "rake-offs" on contracts, even after the medical profession had in various ways urged him to an opposite course. The affront he put on the profession, however explained, could have but one result. As a sequence of this election it is hoped that all the charitable institutions of the state will receive a thorough investigation, following which better conditions seem assured. Probably also the unselfish counsel of the profession will not again be so lightly estimated. The result in Ohio should be an encouragement for physicians in other states to make every legitimate effort to bring about reforms, when necessary, in the conduct of state institutions.

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[2] Reported by Mitter, Inaug. Diss., Kiel, 1891.

THE NOSTRUM EVIL.[1]

When the program of the Section on Practice of Medicine for the Portland session announced that a paper was to be read on nostrums, the manufacturers and exploiters of these preparations became anxious. It was an innovation for one of the largest and most important sections to take up such a subject as this. The Section on Pharmacology and Therapeutics on several occasions had discussed the matter in a kind of a semiofficial way; but this was different. What did it mean? Stenographers were engaged to find out and to report the paper in full, so that something might be done if it were possible and necessary. Pretty soon something was done. Evidently the paper hurt, for Dr. Billings and The Journal began to receive letters, some of them from lawyers, threatening all kinds of trouble if the paper should be published. Since the paper seemed to be so dangerous to the nostrum men, it was thought that it ought to have a larger circulation than it would if published in this journal only, and the state society journals were asked to aid in the publicity movement. This, too, came to the knowledge of those especially interested, and at least one of them sent an intimidating letter to the editors of the journals which it was believed might publish the paper. We rather think that few of the editors were sufficiently intimidated to prevent them from carrying out their original intention Consequently, the paper on the nostrum evil will have about as wide circulation as any paper ever had. In this connection we wish to thank those journals which have expressed such grave anxiety lest we get into trouble by printing matter that would in any way injure the nostrum manufacturers. We realize that it is an awful thing to do, but it's done.

THE YELLOW-FEVER CONTROVERSY.

"Whose fault was it?" This is the question New Orleans is endeavoring to answer. We have already referred to Dr. Joseph Holt's charges against the health officials. These have been followed by a most extraordinary occurrence. The Mississippi State Board of Health, it is reported, has adopted a resolution expressing its hope that Louisiana will retire the president of its State Board of Health and the health officer of New Orleans, Dr. Souchon and Dr. Kohnke, respectively. Dr. Kohnke has published a very full reply to Dr. Holt and to the Mississippi officials, in which he shows conclusively that there are two sides to the question, and that impartial decision will hardly be possible until there has been thorough, unprejudiced investigation of the facts. He makes the telling point that, while it since has seemed probable that yellow fever existed in New Orleans since April or May, there was nothing to arouse suspicion. The first case was reported on July 12, and inspection and fumigation were at once begun. The early cases were very mild and were not recognized as yellow fever by the attending physicians. It should not be overlooked that the early cases of an epidemic of any infectious disease are frequently so atypical and mild that even the expert diagnostician is misled; and hence that the first cases pass unrecognized, though no one can be held at fault. Those who hold the other view contend that the cases were recognized, but were concealed. Here is where nothing but knowledge of the facts can quiet the controversy or afford the outsider any opportunity for reaching conclusions. Until such knowledge is available, physicians will prefer to believe that mild unsuspected cases of yellow fever were unrecognized rather than that undoubted cases were deliberately concealed. Certainly, all will hope that such will prove to be the case. The chief count in the indictment against Dr. Souchon and Dr. Kohnke is that they gave no warning of the danger until after July 19, a date on which all the railroads ran cheap popular excursions into New Orleans from Mississippi, Louisiana, Alabama and Florida. It has been declared that this excursion was the chief factor in the wide simultaneous dissemination of the infection. At present one conclusion has emerged from the controversy—the old one that every city needs a stringently enforced and effective ordinance compelling physicians to report all infections. Without effective notification ordinances, heartily supported by professional opinion and action, similar calamities will from time to time recur.

The Profession's Future.—President Faunce of Brown University, addressing the Rhode Island Medical Society, said that the medical profession will advance in the next twenty-five years in toleration and breadth of horizon. "Not only intensively will the profession advance in mastery of its present instruments and methods, but extensively as well it must progress in fashioning new instruments, in recognizing new methods, and exercising genuine intellectual hospitality. A hospitable mind is the peculiar product of the scientific era. In the prescientific age, hospitality was a sign of weakness and source of danger. . . . We now see that intolerance is the child of uncertainty. The man who is not sure of his position is afraid to meet the men who differ from him; the man who is quite certain of his own established faith is glad to listen to voices that speak from any quarter of the horizon."

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[1] The word "secret" in the title of Dr. Billings' paper—see first article in this issue—was marked to be omitted, but through an oversight this was not done.

pitals of Kansas City, Mo., have opened their doors to the students.——A free eye clinic has been opened by the college at the German Hospital, Kansas City, Mo.

Diphtheria.—The public school at Stone City has been closed on account of diphtheria.——During October, four deaths resulted from diphtheria and 60 cases were reported in Leavenworth.——The public schools in Abilene have been closed on account of diphtheria.——The public schools at Arkansas City have been closed indefinitely in the hope of preventing an epidemic of diphtheria.——More than 50 cases of diphtheria are under treatment at Moline.——The schools at Mound Valley have been closed on account of an epidemic of diphtheria.

MARYLAND.

Personal.—Dr. Richard C. Harley has resigned as health officer of Laurel.——Dr. John Mace, Cambridge, has been appointed lieutenant in the Maryland Naval Reserves and assigned to duty with the Cambridge division.——Dr. James M. Spear, Cumberland, has been appointed local surgeon for the Western Maryland Railroad.——Dr. Washington G. Tuck, Annapolis, has resigned the chairmanship of the Republican state central committee.——Dr. John E. Bolte, Harrisonville, resigned as sanitary physician for the second district of Baltimore County November 21, and Dr. Harry F. Shipley has been appointed in his place.——Dr. John W. Lacy, Lisbon, returned from Europe on the *Oceanic*, arriving in New York October 25.

Baltimore.

A Poor Response.—In answer to the appeal for $6,000 by the Maryland Association for the Prevention and Relief of Tuberculosis for a year's campaign against the "white death". $627 have been received to date.

Matriculants.—The number of matriculants in the University of Maryland School of Medicine for the present session is 331, not 99 as erroneously stated in The Journal last week. ——At the Johns Hopkins University there is a total enrollment of 293 in the medical department.

Died in Prison.—Mrs. Emma O. Lewis, who was sentenced on June 30 to three years' imprisonment in the state penitentiary for performing a criminal operation and for whose pardon a petition was being circulated, died in the penitentiary October 25 from the results of despondency.

Vital Statistics.—The number of deaths for the week ended November 25 was 220, a number larger than for the same period for several years, the annual death rate represented being 19.95 per 1,000. The chief causes of death were: Consumption, 30; pneumonia, 29; Bright's disease and organic heart disease, each 19; bronchitis, 9, and typhoid fever, 8. There were 2 deaths attributed to grippe and only 2 to cancer.

Home from Europe.—Dr. and Mrs. William Green have returned from Europe.——Dr. and Mrs. T. Caspar Gilchrist have returned after a summer in Europe.——Dr. William H. Welch, who spent the summer abroad, has returned.——Dr. William Whitridge has returned from Europe.——Dr. John M. T. Finney, surgeon general of the state, has returned after a summer in Europe.——Dr. and Mrs. Maurice Bloomfield have returned after a summer abroad.

Personal.—Health Commissioner Bosley has announced the following appointments: Medical inspectors of public schools (reappointed), Drs. Isham R. Page, J. Hal Pleasants, (new appointments), Drs. J. Howard Iglehart, A. Duvall Atkinson and W. H. Clendenin Teal. The appointments take effect December 1, the salaries being about $900 per annum.——Dr. Eugene F. Cordell read a paper by invitation before the historical section of the College of Physicians of Philadelphia, November 29, on "Joseph Roby, the Anatomist."——Dr. G. R. Holden has resigned as resident gynecologist at Johns Hopkins Hospital and Dr. Stephen Rushjore has been elected in his place. Dr. H. M. Little, resident obstetrician at the same institution, has resigned and Dr. F. C. Goldsborough has been elected his successor.——Dr. Fannie E. Hoopes sailed for Europe early this month.——Dr. Robert T. Wilson has been elected president of the Hospital Relief Association of Maryland.

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Medical News

ILLINOIS.

Will Have Wisconsin Society for Guest.—The Winnebago County Medical Society at its meeting in Rockford, Jan. 9, 1906, will entertain the Central Wisconsin Medical Society. It is expected that more than fifty physicians from Wisconsin will be present.

Change in Classification.—The state civil service commission on November 22 rescinded its recent action dividing the classified service into seven branches and enacted a new rule embodying ten classes of employes. Under the medical service the following are included: Assistant physicians in insane hospitals, physicians, surgeons, pathologists, oculists, pharmacists, apothecaries and druggists.

Diphtheria.—A number of cases are reported in Moline.——The secretary of the State Board of Health has announced that promiscuous use of slate and lead pencils in public schools is responsible for the spread of contagious diseases, with especial reference to diphtheria.——Diphtheria is prevalent at Metcalf and the schools and outbuildings have been thoroughly disinfected.——There is said to be much diphtheria in Granville and Ladd, but the epidemic in Spring Valley is now declared to be under control.

Tent Colony to be Dedicated.—The Ottawa tent colony, which was established a little more than a year ago, to demonstrate the possibility of cure of tuberculosis in this climate, has been quite successful, as was anticipated. Extensive improvements have been made to meet the increased demand and to make the treatment more attractive. To increase the educational value of this colony the dedicatory exercises will be held at Ottawa December 12. The program will include short addresses by physicians and laymen. Excursion rates will be in force from all points in Illinois.

Per Capita Cost at State Institutions.—The report of the Illinois Commissioners of Public Charities for the quarter ended September 30 gives the following as the per capita cost of the various state institutions: Illinois Western Hospital for the Insane, Watertown, $26.21; Illinois Eastern Hospital for the Insane, Hospital, $30.05; Illinois Hospital for the Incurable Insane, South Bartonville, $30.32; Illinois Central Hospital for the Insane, Jacksonville, $31.27; Illinois Southern Hospital for the Insane, Anna, $35.13; Illinois and Northern Hospital for the Insane, Elgin, $38.67, and Illinois Asylum for Insane Criminals, Menard, $50.43.

Evanston Hospital.—At the annual meeting of the Evanston Hospital Association, November 14, the president began his report by quoting the notice which appears on the gate of the London Hospital: "The passport for admission is sickness or injury combined with poverty. No letters required." The records of the Evanston Hospital show that during the fiscal year 85 free patients were admitted, or more than 25 per cent. of the total number of patients received during the year. In the children's ward 22 patients were admitted, 14 of whom were free patients. The total number of days' service during the year was 7,561, or 622 days more than last year.

Society Indorses New Army Medical Bill.—The Adams County Medical Society, at its meeting November 13, adopted the following resolution, which concluded with an indorsement of the bill to increase the efficiency of the Medical Department of the United States Army as drawn up by the surgeon general of the Army and approved by the President:

> Whereas, Seven years have elapsed since the country was shocked by the disgraceful sanitary conditions which prevailed at Chickamauga, Jacksonville and Camp Alger during the Spanish War, and yet no successful effort has been made to remedy the inadequacy and faulty organization of the medical department of the United States Army to which this utter failure of military sanitation was chargeable, and,
>
> Whereas, The continuance of these discouraging conditions is depleting the army medical service of its best men by resignation, and deterring the brightest minds of the profession from seeking a future in so promising a field, therefore,
>
> *Resolved*, That in the judgment of this society the situation is so critical as to demand immediate measures for relief.

Chicago.

Personal.—Dr. Albert Goldspohn has donated $25,000 for the erection of a science hall at the Northwestern College, Naperville.

Hospital Permit.—A building permit was issued November 22 for the Chicago Policlinic to erect a six-story brick hospital at 319 to 331 La Salle Avenue.

Sale of Dangerous Drugs Prohibited.—The city council at its meeting November 20 passed the amendment to the ordinance prohibiting the sale of morphin and similar drugs, so that they can be obtained only on the prescriptions of physicians or dentists.

Hospital Dedicated.—The St. Bernard's Hotel Dieu in Englewood was dedicated with impressive ceremony November 21 by Archbishop Quigley. The building is five stories high, as nearly fireproof as modern science can make it, and will accommodate 280 patients.

Expenditures for the Poor.—At the forty-eighth annual meeting of the Chicago Relief and Aid Society, held November 13, the president reported that the society had spent $26,400 in the direct relief of the poor during the fiscal year. A new feature of the work was the fresh air station for sick babies and the visiting nurse association. The society now controls 160 hospital beds.

Secures One Dollar Verdict.—In Judge Gary's court November 17 a jury awarded Mrs. J. Jessen one dollar damages from Dr. Henry J. Burwash, whom she had sued, together with the Hospital of St. Mary of Nazareth, for $10,000 damages, alleging that an unnecessary operation had taken place resulting in the death of her son two years ago, and that the body of her son had been mutilated.

Deaths of the Week.—The total deaths from all causes for the week ended November 25 were 471, equivalent to an annual death rate of 12.34 per 1,000. The number of deaths is 39 less than for the preceding week, and 46 more than for the corresponding week of 1904. Pneumonia continues to lead the death causes with 73, followed by consumption, with 60; nephritis, with 49; heart diseases, with 42; violence, including suicide, with 30; acute intestinal diseases, with 25, and cancer, with 20.

IOWA.

Do Not Wish Names Mentioned.—At a recent meeting of the Scott County Medical Society resolutions were adopted to the effect that the editorial departments of the various papers be requested not to mention the names of physicians in connection with medical services, operations or accidents.

Hospital Notes.—St. Joseph's Mercy Hospital, Webster City, was dedicated and opened November 16.——Mrs. E. Tillotson, Highlands, N. J., has given $1,000 to the Ottumwa Hospital Association in memory of her father, the late Dr. William M. Murdock of Urbana, Ohio.——Dr. William H. Corrigan is about to open an emergency hospital in Rockwell.

Personal.—Dr. Frank W. Smith and family, Red Oak, returned October 29 from a trip to the Pacific Coast.——Dr. Cassius C. Cottle and family, Marshalltown, will spend the winter in southern California.——Dr. Thomas E. Livingston Bode expects to spend the winter in California.——Dr. E. R. Wallizer, Des Moines, has been committed to the Clarinda State Hospital.

Illegal Practitioner Found Guilty.—J. C. Wilhite, Fort Dodge, a so-called "doctor of neurology," was found guilty November 18 of the illegal practice of medicine. The defendant admitted that he did not attempt to treat diseases, but that he had advised patients how to treat themselves. Notice of appeal to the supreme court was filed. The heaviest penalty possible is a fine of $3,000.

Epidemic Diseases.—The Board of Health of Dubuque has ordered all the schools and churches of that city to be fumigated because of an epidemic of typhoid fever.——Since October 1 more than sixty homes in Sioux City have been placed in quarantine on account of diphtheria and scarlet fever.——A large number of cases of typhoid fever have developed in and around Ames in the last few weeks.——A mild epidemic of diphtheria and scarlet fever exists in Waterloo.——Typhoid fever has assumed alarming proportions in Estherville.——An epidemic of typhoid fever exists in the Iowa Institution for the Feeble-minded, Glenwood.

KANSAS.

Loss by Fire.—The office of Dr. Silas A. Boam, Topeka, was destroyed by fire, supposed to be of incendiary origin, October 23.

Personal.—Dr. Ambrose Weber has purchased the practice of Dr. D. H. Horner, Perth.——Dr. William C. Bower, Lebanon, has been appointed local surgeon for the Rock Island Railway system.

Kansas University.—The contract for the hospital building for the State University Medical School, Rosedale, has been let. The estimated expense of the building will be $100,000.——The clinical department of the school, located in Kansas City, Kan., is now in good working order and the hospitals of Kansas City, Mo., have opened their doors to the students.——A free eye clinic has been opened by the college at the German Hospital, Kansas City, Mo.

Diphtheria.—The public school at Stone City has been closed on account of diphtheria.——During October, four deaths resulted from diphtheria and 60 cases were reported in Leavenworth.——The public schools in Abilene have been closed on account of diphtheria.——The public schools at Arkansas City have been closed indefinitely in the hope of preventing an epidemic of diphtheria.——More than 50 cases of diphtheria are under treatment at Moline.——The schools at Mound Valley have been closed on account of an epidemic of diphtheria.

MARYLAND.

Personal.—Dr. Richard C. Harley has resigned as health officer of Laurel.——Dr. John Mace, Cambridge, has been appointed lieutenant in the Maryland Naval Reserves and assigned to duty with the Cambridge division.——Dr. James M. Spear, Cumberland, has been appointed local surgeon for the Western Maryland Railroad.——Dr. Washington G. Tuck, Annapolis, has resigned the chairmanship of the Republican state central committee.——Dr. John E. Bolte, Harrisonville, resigned as sanitary physician for the second district of Baltimore County November 21, and Dr. Harry F. Shipley has been appointed in his place.——Dr. John W. Lacy, Lisbon, returned from Europe on the *Oceanic,* arriving in New York October 25.

Baltimore.

A Poor Response.—In answer to the appeal for $6,000 by the Maryland Association for the Prevention and Relief of Tuberculosis for a year's campaign against the "white death", $627 have been received to date.

Matriculants.—The number of matriculants in the University of Maryland School of Medicine for the present session is 331, not 99 as erroneously stated in The Journal last week. ——At the Johns Hopkins University there is a total enrollment of 293 in the medical department.

Died in Prison.—Mrs. Emma O. Lewis, who was sentenced on June 30 to three years' imprisonment in the state penitentiary for performing a criminal operation and for whose pardon a petition was being circulated, died in the penitentiary October 25 from the results of despondency.

Vital Statistics.—The number of deaths for the week ended November 25 was 220, a number larger than for the same period for several years, the annual death rate represented being 19.95 per 1,000. The chief causes of death were: Consumption, 30; pneumonia, 29; Bright's disease and organic heart disease, each 19; bronchitis, 9, and typhoid fever, 8. There were 2 deaths attributed to grippe and only 2 to cancer.

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New York City.

Same Death-Rate.—The death-rate for the week ended November 18 was exactly the same as in the corresponding week of 1904, namely, 16.48 per 1,000. Cold weather increased the number of deaths from pneumonia.

Pure Food Legislation.—The New York section of the Council of Jewish Women held a mass meeting in support of pure food, December 2, at Mendelssohn Hall, at which United States Senators W. B. Heyburn and P. J. McCumber, Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, Department of Agriculture, and others, delivered addresses.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended November 18, 419 cases of tuberculosis, with 174 deaths; 286 cases of diphtheria, with 17 deaths; 253 cases of measles, with 6 deaths; 132 cases of scarlet fever, with 4 deaths; 84 cases of typhoid fever, with 16 deaths; 10 cases of cerebrospinal meningitis, with 9 deaths, and 137 cases of varicella.

Personal.—A reception to Dr. Suzuki, surgeon-general of the Imperial Japanese navy, was given in the Farmington rooms of the New York Exchange for Women's Work, November 24.——Dr. E. C. Podvin has been elected a member of the staff of the new Philanthropic Hospital at Williamsbridge.——Dr. Robert F. McDonald has been elected a member of the Board of Coroners of the Bronx.——Dr. G. A. Hare has gone to Fresno, Cal.

For New Jewish Hospital.—A large fair for the benefit of this institution was opened on November 27. The entire cost of the hospital was $311,000, and there is still a shortage of $111,000. It will cost $100,000 a year to run the hospital at its full capacity of 175 beds. Six thousand dollars has already been contributed toward an endowment fund. During the past year there have been 20,767 persons treated at the dispensary connected with this hospital.

To Admit Non-Sectarians.—A resolution has been formulated by members of the Medical Society of the County of Kings looking to the admission of others than those connected with the so-called regular school. It considers the advisability of admitting to membership graduates of eclectic and homeopathic schools who agree to practice non-sectarian medicine. It is announced that a board of censors will see to it that any man admitted to the society shall be morally and medically fit.

OHIO.

District Society Meeting.—The second annual meeting of the First Councilor District Medical Society was held in Cincinnati November 17. Dr. John C. Larkin, Hillsboro, was elected president; Dr. Robert Carothers, Cincinnati, secretary, and Dr. Walter E. Murphy, Cincinnati, treasurer.

Hospital Dedicated.—The Memorial Hospital, Piqua, was formally dedicated November 30. Drs. Asa S. Ashton, Kesley W. Beauchamp, Francis M. Hunt, Ramsey L. Hyde, Robert L. Kunkle, Ada L. Malick, Levi E. Reck, Parker L. Snorf, Lloyd D. Trowbridge, William N. Unkefer and H. H. Gravitt made up the reception committee.

Personal.—Dr. Charles Biers, Painter Creek, has gone to Jacksonville, Fla., for his health.——Dr. Alexander M. Steinfeldt, Columbus, who is studying in Vienna, has been appointed voluntary assistant in the ambulatorium of Dr. Lorenz.——Dr. George H. Wilson has been appointed local surgeon of the Baltimore & Ohio Railroad at Painesville.——Dr. Orville A. Rhodes, Salem, has started for the Pacific Coast.

PENNSYLVANIA.

Married Many Years.—Dr. and Mrs. Philip S. P. Walter, Nazareth, celebrated their golden wedding anniversary November 6.

Epidemics.—Diphtheria is said to be epidemic at McKinley.——Four deaths have occurred from diphtheria in Hamburg.——Measles is reported to be epidemic in the Soho district of Pittsburg.

Practiced Without License.—Dr. H. O. Sampsel, Scottdale, convicted November 19 of practicing medicine without a license, was sentenced to pay a fine of $50 and costs. On account of the prisoner's inability to pay he was committed to jail.

The Vaccination Question.—The Department of Health dismissed 511 unvaccinated pupils from the public schools of Chambersburg November 1.——The Pottsville Board of Health has barred out 300 pupils from the public schools because of lack of vaccination.——At Selinsgrove 60 children were dismissed from the public schools November 13 on account of not having vaccination certificates.——Because she refused to allow her son to be vaccinated, according to the provision of the compulsory school law, Mrs. Victoria Moulton, East Lemon, has been twice imprisoned by order of court, the first time for two days and the second for five.

Personal.—Dr. Charles Rae, York, fractured one of the small bones of his foot while exercising at a gymnasium November 3.——Dr. George H. Halberstadt, Third Brigade, N. G. Pa., while returning from Philadelphia to his home in Pottsville, was struck on the head by a large stone which was thrown through the window of a car in which he was seated. He was rendered unconscious and a deep gash was inflicted.——Dr. William R. Brothers, Tamaqua, has been placed in charge of a new medical examiner's district of the Reading Railway System at Harrisburg.——Dr. Oliver L. Blachly, Wilkinsburg, and family, have gone to Pasadena, Cal.——Dr. Henry W. Saul, Kutztown, has been appointed physician to the Keystone State Normal School in that place.

Hospital News.—The medical staff of the Chester Hospital held a meeting November 11 and reorganized, re-electing Dr. Jonathan L. Forwood president of the staff and Dr. Leon Gottschalk, secretary. Dr. Forwood was also made chief of the surgical staff, which comprises Drs. F. Farwell Long, Samuel R. Crothers, Lewis H. Crothers and Leon Gottschalk. Dr. Daniel W. Jefferies was chosen chief of the medical staff, which includes Drs. Ellen E. Brown, Katherine W. Ulrich, Edward W. Bing and Frederick H. Evans.——The directors of the Chambersburg Hospital have elected the following staff: Dr. Charles F. Palmer, Henry X. Bonebrake, Robert W. Ramsey, David Maclay, W. Frank Skinner, Henry C. Devilbiss, John C. Greenewalt, P. Brough Montgomery, L. Federick Suesseprott, Johnston McLanahan and John P. Seibert.

Communicable Diseases Designated.—The state commissioner of health has sent a circular letter of instructions to every physician in the state, calling attention to the regulation of the department of health requiring a report of all contagious diseases to the secretary of the board of health of the city or borough in which the case occurs. The following is the list of diseases: Actinomycosis, anthrax, bubonic plague, cerebrospinal meningitis, chickenpox, cholera, diphtheria, epidemic dysentery, erysipelas, German measles, glanders, hydrophobia, leprosy, malarial fever, measles, pneumonia, puerperal fever, relapsing fever, scarlet fever, smallpox, tetanus, trachoma, trichiniasis, tuberculosis, typhoid fever, typhus fever, whooping cough and yellow fever. The so-called "membranous croup," "diphtheritic croup," or "putrid sore throat," is to be reported as diphtheria, and the so-called "scarlatina" and "the scarlet rash" as scarlet fever. The department of health will furnish blank notices for reporting contagious diseases, and the state pays for the postage on these notices.

Philadelphia.

Martin's Successor.—On November 27 Dr. William M. Late Coplin, professor of pathology and bacteriology, Jefferson Medical College, and director of the Jefferson Hospital laboratories, was appointed by Mayor Weaver, director of health and charities of Philadelphia, vice Dr. Edward Martin resigned. Dr. Coplin served as a member of the commission to organize the bureau of bacteriology, and later as a member of the Civil Service Commission. During the cholera epidemic in 1892 he was appointed an officer in the United States Marine-Hospital Service and acted as inspector of immigrants. At this time he established an emergency service in large industrial establishments where cases of communicable disease, heat stroke, etc., might be early diagnosed and promptly treated. He was bacteriologist to the State Board of Health, and is at present a member of the non-partisan commission to formulate laws to govern the disposal of tuberculous animals. He is a member of the American Medical Association, American Public Health Association, all the more important medical societies, and is president of the Philadelphia Pathological Society. He has served on the staffs of four hospitals and has held chairs in three medical colleges. His contributions to medical literature have been many and varied. His "Manual of Pathology" has reached a fourth edition, and a second edition of his "Manual of Practical Hygiene" is in process of preparation.

TENNESSEE.

College Opens.—The seventeenth annual session of the Tennessee Medical College, Knoxville, opened November 1. The Lincoln Memorial Hospital, in connection with the college, will be ready to receive patients early in December.

Commencement.—The commencement exercises of the Medical Department of the University of the South, Sewanee, were held October 26. Dr. Hampton L. Fancher, Orme, delivered the charge to the graduating class, which consisted of 27 members.

New College.—Drs. Heber Jones, J. C. Elliot, J. A. Crisler and Maximilian Goltman made applications for a charter November 15 for the College of Physicians and Surgeons of Memphis. The capital stock of the corporation is fixed at $40,000. The building is planned to cost not less than $60,000.

Middle Tennessee Physicians Meet.—The Middle Tennessee Medical Association held its annual session in Lebanon November 17-18, and elected the following officers: Dr. Charles N. Cowden, Fayetteville, president; Dr. Lynn B. Graddy, Nashville, vice-president, and Dr. William Litterer, Nashville, secretary and treasurer.

Personal.—Dr. Heber Jones, president of the Memphis Board of Health, has been presented with a purse of $10,000 in appreciation of his successful efforts in maintaining a prohibitive quarantine during the recent epidemic of yellow fever in the South.——Dr. Philander D. Sims, recently appointed city physician of Chattanooga, has selected as his assistant, Dr. John B. Steele.

TEXAS.

Personal.—Dr. Edmund B. Parsons, Palestine, has been made physician for the jail and county camps, and Dr. Henry R. Link for the county farm.

Colored Physicians Meet.—The Lone Star Medical Association convened November 15 in Houston and remained in session two days. The following officers were elected: President, Dr. Benjamin R. Bluitt, Dallas; vice-president, Dr. Gordon Phipps, Corsicana; secretary, Dr. Benjamin J. Covington, Houston, and treasurer, Dr. J. H. Wilkins, Victoria. The association will meet in Dallas next year.

Hospital News.—The All Saints' Hospital Association, Fort Worth, has opened its recently completed hospital building. ——A new hospital and sanatorium is being planned for San Angelo, to be conducted by Sisters of Charity.——The Charity Hospital endowment fund, Houston, has received $30,000 of the $40,000 required for the erection of the building. The site and $20,000 have been given by Mr. George Herman.

VIRGINIA.

Board of Health.—The thirty-third annual report shows that the total number of deaths for 1904 was 1,876; white, 858; colored, 1,018, a decrease over the previous year of 59 from all causes. The annual rate of mortality on the whole population was 18.76 per 1,000. The death rate of the white population was 13.76 per 1,000, and that of the colored 24.49 per 1,000.

Tuberculosis Sanitarium at Ironville.—At a recent meeting held in Richmond of the officers of the Virginia Sanitarium for Consumptives, it was decided if possible to consolidate this society with the organizations of the Associated Charities and of the Medical Society of Virginia. It was contended that there was little use for three societies working for the same ends, but along different lines. It is now the object to bring about co-operative effort and harmony in order that the legislature may be petitioned to take the matter in hand and erect a state sanitarium.

GENERAL.

American Tuberculosis Exhibition.—This exhibition is now being held in New York, as announced in The Journal last week.

Yellow Fever in Cuba.—The health department hopes to stamp out the yellow fever infection and is disinfecting all places where fever cases have occurred. The plague of mosquitoes which was present all summer continues.

N. S. Davis District Medical Association.—The Northeast Missouri Medical Association, which has been reorganized as the N. S. Davis District Medical Association in honor of the late Dr. N. S. Davis, held its second annual meeting in Keokuk, Iowa, November 14. The following officers were elected: President, Dr. Wiliam B. Sisson, Kahoka, Mo.; vice-presidents, Drs. Charles L. Russell, Keosauqua, Iowa, and Robert M. Lapsley, Keokuk, Iowa, and secretary and treasurer, Dr. John E. Parrish, Memphis, Mo.

Railway Surgeons Meet.—The Cincinnati, Hamilton & Dayton Railway Surgeons' Association held its annual meeting in Dayton, November 14. The question of merging the association with the Association of Surgeons of the Erie Railway was discussed, but no definite action was taken. The election of officers resulted as follows: President, Dr. Frederick D. Barker, Dayton, Ohio; vice-presidents, Drs. Frederick W. Robbins, Detroit, Mich.; Samuel E. Munson, Springfield, Ill., and William S. Hoy, Wellston, Ohio; secretary, Dr. Mark Millikin, Hamilton, Ohio; and treasurer, Dr. William A. Galloway, Xenia, Ohio.

The Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine announces that the sum of $1,000 will be awarded to the author of the best essay on "The Etiology, Pathology, and Treatment of the Diseases of the Kidney." An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. Essays must be received on or before January 1, 1907, by the recording secretary of the New York Academy of Medicine, at 17 West Forty-third street. The prize is awarded triennially. In 1902, two essays were received, but no prize was awarded, as, in the opinion of the trustees, neither of the essays was worthy of it.

Plague in Hawaii.—Passed Assistant Surgeon Hobdy, of the Public Health and Marine Hospital Service, reports two fatal cases of plague in Honolulu during the latter part of October. A Chinaman, admitted to the hospital with symptoms of plague, died, and the autopsy confirmed the diagnosis. The second patient was a woman who died after an illness of four days. The case was reported as suspicious by the attending physician, a Japanese, but unfortunately his suspicions did not develop till after the patient's death. Autopsy showed conclusively that the death was due to plague. In this case, Dr. Hobdy states that there were many contacts and he instituted outgoing quarantine. This action, he says, was necessary because of the large number of Japanese who were to leave for the coast two days later. Dr. Hobdy also reports other deaths which seemed suspicious, and some of which were proved by autopsy to have been due to plague.

Report of the Surgeon General of the Navy.—In his annual report for the year ending June 30, 1905, Surgeon-General Rixey states that the medical corps of the Navy is at a disadvantage in the mind of a prospective candidate because of the fact that the assistant surgeon of the Navy while on shore duty receives 15 per cent. less than his army colleague. Dr. Rixey believes that the removal of this apparent discrimination will be of service in successfully recruiting the corps. In reviewing the work of the service he mentions the development of the naval stations at Charleston, S. C., and at Guantanamo, Cuba, and invites attention to the fact that no provision has been made for a naval hospital at either place. The need for a hospital at Guantanamo, he states, is immediate and urgent from the fact that naval vessels are frequently at that place and there are no hospital facilities available. The report includes detailed statistics of the health of the navy and of the marine corps during 1904.

FOREIGN.

Prussian Convalescent Home for Army Officers' Wives and Daughters.—A convalescent home for the members of the family of underofficers in the Prussian army has just been inaugurated at Idstein in Taunus.

Correspondence of Frederick the Great With Physicians.—The Prussian Academy of Sciences has granted $200 to Dr. G. L. Mamlock to aid in the publication of the correspondence between Frederick the Great and various physicians.

Smallpox and Yellow Fever in Brazil.—Consul Ayme, at Para, reports that the epidemic of smallpox is assuming serious proportions and that there are about 20 new cases daily. He also states that there has been a great deal of yellow fever lately.

General Inspector of the Insane at Berlin.—Besides the three asylums for the insane or feeble-minded at Berlin, a large number of idiots and epileptics are boarded out in private establishments. A central office for the entire system has just been organized and given in charge to the director of the asylum at Lichtenberg, Dr. Moeli, who has been appointed general superintendent of the insane in the Berlin district.

Witchcraft Approved in the German Courts.—A woman was sentenced at Coburg to three months' imprisonment for obtaining money under false pretenses by alleged medical practices. During the appeal proceedings a large number of witnesses testified that there had been no deception, that the woman had unmistakably fulfilled her promises to conjure witches and cure sick cows by her words, and that the witnesses had not been defrauded in any way. The suit against the woman was therefore dismissed.

Three Years' Confinement for Drunkards in Great Britain.—It has been announced that greater stringency is to be observed in the working of the English inebriates act. It has been found that permanent good can not be effected by confining persons in an inebriates' home for one or two years, and the judges have been requested to suggest to the justices that all these individuals should be sent to homes for three years, because in almost every case in which the individual was confined in a home for three years success had been attained.

Physicians Protest Against High Price of Meat in Germany.—One of the official medical organizations of Munich has published a public protest against the present high price of meat. It calls the attention of the authorities to the inevitable injury to health, both for the present and the rising generation, from the prevailing high prices of the most important articles of food, especially meat. The protest asks for reduction in customs duties and abolition of measures restricting importation of canned and dried meats. As physicians and hygienists the subscribers urge that steps should be taken at once to prevent further deterioration of the health of the people of Bavaria.

The Royal Society Medals.—The Royal Society (Great Britain) has awarded medals to Prof. Charles Scott Sherrington, F.R.S., for his researches on the central nervous system in relation to reflex action; to Prof. John Henry Poynting, F.R.S., for his researches in physical science, especially in connection with the constant of gravitation and the theories of electrodynamics and radiation; the Copley medal to Prof. Mendeléef, of St. Petersburg, for his contributions to chemical and physical science; the Davy medal to Prof. Albert Ladenburg, of Breslau, for his researches in organic chemistry, especially in connection with the synthesis of natural alkaloids, and the Hughes medal to Prof. Augusto Righi, of Bologna, in recognition of his experimental researches in electric science.

Postgraduate Course in Professional Organization Matters and Contract Practice.—The *Leipziger Verband* has arranged for a series of lectures on these subjects to be delivered at Berlin to medical students and recent graduates under university auspices. The lectures are to be delivered Friday evenings, commencing in November. The first is to be by Kühler, on "The Physician and the Public"; the second, by A. Peyser, on "Organization of the Medical Profession"; the third by R. Lennhoff, on "The Physician and Sickness Insurance Societies"; the fourth, by H. Joachim, on "Demand and Supply of Medical Positions"; the fifth, by Davidsohn, on "Medical Benevolent Institutions"; the sixth, by Bensch, on "Medical Insurance," and the seventh by Hesselbarth on "Legal Protection of the Physician." It is proposed to follow this series with another on allied themes in the next semester, and to publish the addresses in pamphlet form to reach a wider audience.

Surgeon's Responsibility in Case of "Chloroform Death."—A French surgeon was sued for $10,000 on account of the death of a patient from syncope during the commencement of anesthesia. The court decided that the surgeon's technic was flawless, but that he had omitted to warn the patient and his family of the dangers of chloroform anesthesia in general, especially for persons more or less addicted to alcohol, as was the patient in the case. The judge stated: "As the operation was not undertaken for vital reasons, but merely for the reduction of a dislocated shoulder, the surgeon should have explicitly informed the patient and his family, and have obtained their consent before undertaking the administration of chloroform for an operation that was not strictly necessary. In case of vital necessity, the surgeon has only his science and his conscience to consult, but in the case in question this does not apply." The surgeon was sentenced to pay $1,600 and costs. The full text of the decision is given in the *Gaz. Med. Belge* for November 9.

British Physicians Honored.—King Edward, on the occasion of his birthday, knighted Dr. James Barr, physician to the Royal Infirmary, Liverpool, and lecturer on clinical medicine in University College, Liverpool; Mr. Arthur Chance, president of the Royal College of Surgeons in Ireland, surgeon to the Mater Misericordiæ Hospital, Dublin, formerly; Dr. Theodore Thomson, one of the medical inspectors of the local government board, has been made a companion of the Order of St. Michael and St. George, in recognition of services rendered in connection with sanitary matters to the foreign office and colonial office; he has represented Great Britain at international sanitary conferences. The same honor was conferred on Dr. Marc. Armand Ruffer, president of the Egyptian Sanitary Board, distinguished for his researches in bacteriology and pathology; and on Dr. Featherstone Cargill, first class resident in the Protectorate of Northern Nigeria. Sir Felix Semon, C.V.O., physician extraordinary to his majesty, has been advanced to be a Knight of the Royal Victorian Order.

Enteric Fever in the British Army.—Dr. H. E. Leigh Canney, an acknowledged authority on the subject, recently delivered an address on "The Toleration of Enteric Fever by the British Army." His address was a strong indictment of the lack of medical organization that prevailed in the army. He declared that the condition of the British army at Bloemfontein was precisely similar from the point of view of sanitary organization to that of the royalist and parliamentarian armies in 1642, when both sides being close together could not fight on account of disease. Figures were given showing that the incidence of typhoid fever in the British army represented in India and South Africa was extremely large when it was realized that the incidence of this disease in the army in Great Britain had been reduced to one-seventeenth of what it was between 1837 and 1846; at Gibraltar, to one-eighteenth, and at Malta to one-fortieth. The condition in India, he said, was comparable only, though considerably worse, with that of the army of England, long before sanitation was known, and the condition in South Africa was more serious still. Dr. Canney said that he is in favor of a "school of sanitation for officers" being established forthwith as well as a handbook of sanitation for the field and barrack being provided for officers.

To Prohibit Use of White Lead.—One of the Paris daily papers recently organized a public scientific meeting to agitate the question of the suppression of white lead. It was held Saturday evening in the Trocadero hall, and Dieulafoy presided, with Brouardel and other prominent physicians and hygienists on the platform. The principal address was made by Mosny, who stated that in his small service at the Saint Antoine hospital, with only 60 beds, he averages 23 cases of lead poisoning every year. He drew the picture of the slow poisoning from the use of white lead in paints, etc., and discussed the measures necessary to prevent it, and save a large class of citizens and their descendants from insidious physical injury. Whether official regulation, substitution of zinc for lead, or prohibition of the use of white lead would prove most effectual he did not venture to decide. Regulation has been tried, but met with such opposition on the part of the proprietors that the regulations were never successfully enforced. The substitution of zinc white for white lead was also officially decreed in France at one time, but the higher price of the zinc caused the surreptitious use of the lead to such an extent that the regulation became practically a dead letter. The complete prohibition of the use of white lead is opposed only by the manufacturers of the latter. A bill has been passed by the chamber of deputies and is now before the senate, forbidding the use of white lead completely, but giving the manufacturers four years in which to close up their establishments. Several of the speakers emphasized the importance of training the young in hygiene in regard to prevention of lead poisoning. Adults seldom realize its importance until too late.

Organization of the Profession in Bohemia.—The last *Prager med. Wochft.* devotes several pages to an urgent appeal for the formation in Bohemia of a society for mutual aid in resisting unjust exactions by the sickness insurance companies (Krankenkassen). It is to be modeled on the *Leipziger Verband* for promoting the economic interests of the physicians of Germany, the success of which has surpassed all expectations. It now numbers 17,000 members, who pay annual dues of about $5. It has, to date, aided in 318 affairs in which there was conflict between the Krankenkassen and their medical officers, and all but eight have terminated in favor of the physicians. The pecuniary results for the medical officers of the sickness insurance societies amount to a total of $500,000 a year, gained for the profession by the efforts of the *Leipziger Verband*. Besides this, fully three times as many affairs were settled in favor of the medical officers without the necessity of a conflict, the total pecuniary results amounting thus to fully $1,600,000 a year gained for the medical officers of the sickness insurance societies by the direct or indirect backing of the organized profession in the *Leipziger Verband*. In Bohemia it is proposed to organize a similar society in each district, and in time to combine them into a national organization. The district society must have the backing of at least half of the physicians, and stirring appeals call on them to organize and reap the benefit of such [illegible] The prestige of the whole profession is raised [illegible] tion now accorded the sickness insurance [illegible] as the results of organization, and the same is hoped for Bohemia. The application for membership contains a clause imposing a penalty of about $400 for action contrary to the aims of the society.

Epidemic Psychoses.—The *Russische Med. Rundschau* discusses the mutiny on the *Potemkin* of the Black Sea fleet, quoting an article by Jacoby, who takes the view that the mutiny was the result of an epidemic psychosis among the men. He regards the Paris commune of 1870 as an instance of the same kind of psychic commotion. The revolutionary movement at that time spread to other cities in France and into Italy and Spain. At Carthagena the crew of one of the naval vessels mutinied and bombarded the town. Jacoby met several of the members of the crew two years later and noticed that a number among them showed evidences of morbid minds, although their reasoning faculties were intact. In the present conditions in Russia, the editorial continues, instances of collective, induced psychoses are easily possible. One needs only to know the psychic condition of the Russian populace at the present time readily to understand it.

International Congress of Drops of Milk.—This fanciful name is given in Europe to the charity infant milk supply stations, combined with medical inspection of the infants and advice to mothers. An international conference of persons interested in the subject has just been held at Paris. The members of the congress visited the successful infant consultations in Paris and at Rouen and Fécamp, and decided to form an international union with headquarters at Brussels, where the next congress will be held in September, 1907. The official definition of the term *gouttes de lait* (drops of milk) was announced as "A work which fights against infantile mortality by every possible means; it gives advice to the mothers; encourages breast feeding, and supplies proper milk when the breast milk is insufficient or defective." The congress voted in favor of legislation for control of milk for the use of infants separate from the general milk supply. Ulecia, of Madrid, has founded a very successful infant consultation in his city and he remarked that to give milk to the mothers without medical advice at the same time, was high treason against motherhood (*lèse-maternité*). The charity milk supply stations in Great Britain are not under medical control, and there is no attempt at the "infant consultations" which have been developed to such perfection in France, as mentioned recently in these columns on page 1366. They have recently been introduced into Berlin, Vienna, Buda-Pesth and Buenos Ayres on the French models, and the Congress passed resolutions urging their still more general adoption. Four have been founded in St. Petersburg, but only one has survived to date. J. Bertillon proposed that infantile mortality should be classified by age, the first group including infants one to four days old; the second, five to nine; then ten to fourteen, fifteen to twenty-nine, one to three months, three to six months, and six to twelve months.

LONDON LETTER.

Increase of Inmates in the Asylums of Scotland.

The government report on lunacy in Scotland shows that the proportion of pauper insane resident in asylums per 100,000 of the population has steadily increased during the last twenty-five years. This does not appear to depend on increase of admissions, but on a diminution of the discharge rate. The reasons given for this are as follows: An increased unwillingness to retain insane persons in private life or to receive them back from asylums; the admission in large numbers of old and physically disabled persons who are unfit to be discharged; lessened activity on the part of parochial authorities in removal from the asylum of patients who could be cared for outside.

Death from a Wasp Sting.—The following remarkable case was investigated by the Sussex coroner. The wife of a workingman was drinking a glass of stout when she suddenly felt a pain in the throat as a result of some body which she had imbibed with the liquid. She coughed it out and found that it was a wasp. Beyond the natural fright and some discomfort in the throat, she seemed but little the worse for her experience, and for the next few days was comparatively well, so that medical advice was not sought. Then she felt faint and ill, but continued to pursue her ordinary vocation until the sixth day after the sting, when she called in a physician. He found little evidence of serious illness, but her symptoms rapidly increased and assumed a grave character. Cellulitis of the throat and nasal passages developed and death from septicemia followed in two days. This case differs from the ordinary cases in which dangerous symptoms follow wasp stings in that an interval elapsed between the sting and the onset of symptoms, and that these were due to cellulitis, and not to toxemia.

Pharmacology

The Square Deal in Pharmacy.

There are persons who are living more or less voluntarily in a fog, so far as concerns a real comprehension of the purpose of establishing the Council on Pharmacy and Chemistry. The issue is so plain that it should hardly need restating, but that further explanation is necessary is evident when we find the official journal of one state association joining hands with those who naturally are in opposition to the work of the reform.

Tersely stated, the object is to secure honesty in pharmacy. Apart from the creation of the false issues, the setting up of straw men, there are no two sides to the question. The profession is demanding nothing chimerical or difficult, but it should and must be recognized at once that the dishonest and fraudulent methods of those who are supplying physicians with medicinal articles must be stopped. The profession, the Association and the Council are desirous of bringing about this absolutely essential reform with as little friction and injury as possible. But in the past mild protests of a general character have failed to check the evil, so that the adoption of the present effective method became inevitable.

Nothing short of exposing fraud by giving specific examples will compel reform.

The profession needs attractive and reliable pharmaceuticals and welcomes the legitimate efforts of honest manufacturers. Those manufacturers who adopt the platform of the Council on Pharmacy and Chemistry—which is conservative and requires only honesty—are sure of the support of the profession. Common every-day honesty is all that is required, and those who are thereby now squealing so loudly are arousing questions as to their motives and methods.

There being not the least desire or need of punishing anyone for past offenses, it would seem to be an easy matter for the medical profession and the manufacturers to meet on the one common ground of square dealing and to arrange matters for the future so that harmony and honest methods may prevail. So long as there are fake preparations and misleading "literature" THE JOURNAL will continue to expose them, as a matter of duty to the medical profession and to the public. In the meantime, all who are ready to stand with us on the "square deal" platform will be welcomed.

Birds of a Feather. A Menace to the Public Health.

The list of the members of the Proprietary Association of America, which we published two weeks ago, is but another illustration of the general truth of the old adage that "Birds of a feather flock together." With the exception of a comparatively few firms, the concerns enumerated are engaged in a business that is neither honorable nor commendable. For the physician who is at all interested in the progress of his profession, or in the maintenance of the public welfare, this list should prove highly instructive, especially since the proprietary association is practically forcing the newspapers of the country to publish matter they supply to counteract the movement against the patent medicine fraud.

The preparations that are enumerated under the several firm names are important, as they constitute a goodly portion of the articles that are sold directly to the public. But it will be noticed that many of them were at one time considered "ethical," because they were advertised directly to, and were prescribed by, physicians. Many of them are composed of more or less active medicinal substances and thus are a direct menace to public health, when, as is now the case, they are used indiscriminately and without regard to their danger certain conditions. To-day their common use by the public is an indictment of the credulity or foolishness, or both, of a large number of medical practitioners. While even the most reckless users of nostrums would scorn to prescribe "Bradfield's Female Regulator," "Liquozone," "Peruna," or "Wine of Cardui," thousands of otherwise intelligent physicians are daily prescribing "ethical proprietaries" that are not one whit better. Many other "ethical proprietary" preparations are gradually, but surely, going, or have gone, to the patent medicine class by the aid of physicians. Such, for instance, as "Vin Mariani," "Tongaline," "Antikamnia," "Kutnow's Powder," "Gray's Glycerin Tonic Comp.," "Peacock's Bromides," "Chionia," "Cactina Pilletts," etc.

All of these and many more of the present-day "ethical" preparations that are "advertised only to the medical profession" may be found enumerated in the price lists of the larger cut-rate drug stores, and are daily sold to men, women and children, over the counter, at from 20 to 50 per cent. less than they are furnished on physicians' prescriptions.

The question naturally arises, Who is to take the blame for the ultimate consequences of the resulting haphazard self-medication? Who is to be held responsible for the overstimulation and subsequent collapse, the deranged metabolism and the frequently acquired dangerous, if not fatal, drug habits? Before we blame the public for the indiscriminate use of "patent medicines" it will be well for many of us to ask ourselves how far we are responsible for some of the "patent medicine" taking.

Medical Papers and Proprietary Medicines.

Our contemporary, THE JOURNAL of the American Medical Association, is not having by any means an easy task in its attempt to enlighten the physicians of the states on various points regarding the trade in proprietary articles. Many of the proprietors of much-advertised preparations regard the undertaking as a direct attack on their trade, and they are ready to use any weapon in self-defense. In particular, many of the less important medical papers, whose existence depends in great part on the returns from their advertisement columns, have published violent attacks on THE JOURNAL and on the personality of its editor. In some cases these attacks are little else than paraphrases of the matter to be found in the advertising columns of the same papers. How strong a hold some of these manufacturing druggists have over the medical press in America is shown in an amusing way by a letter to THE JOURNAL itself from the proprietors of a much-vaunted hematinic, many of whose advertisements are doubtless at present in our readers' waste-paper baskets. In an editorial article in our contemporary some months ago, the statement occurred that "the day of blind reliance on iron, quinin, and tonics in general in the treatment of anemic conditions in tropical countries is past, never to return." This seemingly innocent remark drew forth an indignant letter of remonstrance from the proprietors of the hematinic, who regard it as a direct "slap in the face," since it is alleged to cast a slight on their preparation, and they threaten in consequence to withdraw their advertisement. When an attempt is made to restrain such a paper as THE JOURNAL of the American Medical Association from free comment, one may judge the freedom permitted to less independent and less scrupulous journals.—*Medical Press and Circular*, London.

Multiple Neuritis Following the Use of Peruna.

In the report of a recent meeting of the Academy of Medicine of Cincinnati, as published in the *Lancet-Clinic*, Nov. 4, 1905, the following interesting case is reported by Dr. George E. Malsbray:

"In September, 1904, I was called to see a woman just past the meridian of life, whom I found suffering from multiple neuritis. The nerves of the lower extremities, and some of the nerves of the head were successively involved. There was no history nor evidence of exposure to cold, rheumatism, nor exhaustion to act as etiologic factors. Finally, after ruling out other causes of the disease, it became evident that the patient must have been taking alcohol in some form, notwithstanding the fact that she was a refined lady and an earnest advocate of temperance, who would not knowingly indulge in any form of alcoholic beverage. I asked her what she had been drinking. She was shocked; she disclaimed being a tippler either in public or private. I asked her what medicine she had been taking. She stated that she had not been under the care of a physician. Further examination into the history of the case revealed the fact that the patient had been using 'peruna' for a long time, taking the nostrum under all sorts of pretexts. After explaining the case to the patient, she readily consented to stop the 'peruna' cocktails. As stated, first one nerve, then another, was attacked. Finally, after about three months' treatment with the usual remedies for multiple neuritis, the patient apparently recovered. . . . The patient has since relapsed, as is common in this disease, showing that the recovery was not complete."

Apothecaries and Patent Medicines.

To show what may be done by an apothecary who sees in the patent medicine he sells something beside the profit he reaps therefrom, we quote from a letter recently received from a Canadian druggist. He refers to a move of the patent medicine manufacturers to prevent price cutting, and incidentally to suppress what they denominate substitution:

> At first sight the proposition was a perfectly equitable one, but on close examination I found that anyone who signed it would be under the necessity of passing out any nostrum asked for without comment. Now, when anyone comes in and asks me for a bottle of these swindles, I always give them what they ask for, but usually with my opinion of the fraud thrown in. In certain cases it is useless to do this, as it has no effect. I am thankful to say, however, that I have been instrumental in killing the sale of some hundreds of bottle of these frauds. Another vile swindle I am "down on" is the advertised tuberculosis cure. I believe that this one county contributes $10,000 a year to the maintenance of those two harpies, —— and ——. I keep a small stock of the —— "remedies," and dispense them under protest. ——'s literature is so infernally offensive to the medical profession, that both my competitor and I have blacklisted the goods, and will have none of them.

This sentiment from a druggist is unusual, and hence the more commendable. That the apothecary has the legal right ta sell his customers that for which they ask can not be denied; his opportunity for enlightening the public in regard to nostrums is not so thoroughly appreciated.—*American Medicine.*

Chicago Medical Society Indorses the Movement.

The Council of the Chicago Medical Society, at its last meeting, adopted the following resolutions:

> *Resolved,* That the Chicago Medical Society expresses its hearty approval of the action of the American Medical Association i[illegible]l on Pharmacy and Chemistry to [illegible] drugs and medicinal preparations. [illegible] an investigation is necessary to sift out the numerous and rapidly increasing number of worthless and harmful preparations that are being exploited among the physicians of this country. It has confidence in this Council and wishes to support the Trustees of the American Medical Association in carrying on the work already instituted by this body.
>
> The Chicago Medical Society also approves the action of THE JOURNAL of the American Medical Association in its campaign of educating the medical profession concerning the evils of secret nostrums and urges it to continue in the good work. FRANK X. WALLS, Secretary.

Work of the Council Indorsed.

We are officially informed that at a meeting of the Aux Plaines Branch of the Chicago Medical Society, held in the Phoenix Hospital, Maywood, November 24, a vote of thanks was unanimously tendered THE JOURNAL of the American Medical Association for the excellent work of its Council on Pharmacy and Chemistry with reference to the proprietary remedy evil.

Miscellany

Obstetrical Binders.—Povey, in the *Dominion Medical Monthly,* gives the following uses of the obstetrical binders as determined by his own personal experience. He advocates its use in practically all cases. The binder itself consists merely of a piece of unbleached muslin long enough to surround the abdomen and broad enough to extend from the pubes to the sternum; two pieces of the same material, three inches wide and eighteen inches long, are securely sewed to the posterior border (to avoid the use of safety pins, on which the patient would have to lie), so that when the binder is applied they hold it down in position, and, being pinned anteriorly above the pubes, hold the vulvar pads in position. Several of these simple binders should be on hand, so that as one becomes soiled another may be applied. A good sized pad of absorbent cotton or other suitable material should be placed on the abdomen just back of the uterus after that organ has been lifted forward. This pad is held firmly in this position while the previously arranged binder is pinned snugly by the nurse, beginning at the sternal end and pinning downward. The hand is gradually removed as the binder is pinned, so that the pad is held in place. The binder is pinned tighter above than below. The vulvar pad is placed in position and the two posterior straps are drawn up and pinned anteriorly, thus holding the binder down and the vulvar pad in position. Sometimes two additional straps can easily be adjusted. The binder may be tightened as the uterus contracts, and by the tenth day, when the uterus is within the pelvis, the pad may be entirely removed and the binder applied firmly throughout its entire length. The advantages of the binder thus applied are: 1. The patient is thus made comfortable. After the uterus has been delivered of its burden the patient necessarily feels a tremendous relief from weight, pressure and distension. 2. It permits the patient to be moved and turned in bed without the fear that something terrible is going to happen. For a patient to be turned from one side to the other, her position being changed when she becomes wearied, is of very great advantage in guarding against retroversion, descent and prolapse of the uterus. 4. It has a decidedly beneficial effect on the mental state, for the patient believes that her maidenly contour will be restored. Thus her mind is placed at ease, and this is no small factor in the establishment of an uneventful convalescence. He states that he has seen just as many cases of "after pains" when the binder was not applied as when it was, and in some cases in which he has removed the binder the pains continued. He is of the opinion that when not properly applied it causes retroversion, descent or prolapsus of the uterus, but when applied as he directs, thus allowing the patient to be turned and not requiring her to remain on her back, it possesses advantages far above the objection raised, and even is a great factor in preventing the mentioned sequela. The patient is of the opinion that it actually helps to restore the maidenly contour. All in all, it seems to Povey that the obstetrical binder is a rational, feasible and simple device, and when in the hands of a judicious obstetrician a decided help, comfort and blessing to womankind.

Preparations for Confinement.—De Forest, in the *Medical News*, gives the following list of articles which should be prepared and that should be within the reach of all save the very poor, and which does not include non-essentials:

For Use of the Mother.—Six towels, freshly laundered; three sheets, freshly laundered; one rubber sheet; one labor pad, made of newspapers and clean muslin, or quilted mattress protector: thirty-six lochial guards, preferably of gauze and paper wool, or of cotton waste, or of cotton and gauze sterilized: three binders, abdominal, 18 inches wide and circumference of hips; two binders, breast, made from pattern; twenty-four safety pins, Clinton, large No. 3; forty-eight medium No. 2; thirty-six small No. 1; two washbowls, earthern or agate; one water pitcher, earthen or agate; one slop jar; ten yards absorbent gauze for wash cloths, etc.; one fountain syringe (one gallon); one glass douche tip, for syringe; one glass drinking tube; one douche pan, white enamel or agate ware; two hand brushes; one hundred antiseptic tablets, 7½ grains, bichlorid, blue; eight fluid ounces of lysol; one tube of vaselin; four fluid ounces Squibbs chloroform.

This list is printed on a card six inches square. On the front of the card a space is left for the name, address and telephone number of physician, patient and nurse. On the back page, after it has been folded vertically, is the special direction:

"Urine: Send half a pint of morning urine to doctor's office every two weeks after the sixth month."

At the time of labor the room should be cleared of all needless articles and ornaments. The carpet should be protected with a layer of newspapers, with a sheet tacked over them. The bureau mantel and table tops should be cleared and protected with paper and covered with clean towels for the instruments, etc. There should be plenty of hot and cold water and ice in readiness. These supplies should be at hand, in good order and easily accessible.

Means to Correct the Dispensary Abuse.—Imhofer of Prague discusses, in the *Prag. med. Wochft.* for October 5, the best means to combat the dispensary abuse, which has assumed large proportions there. He suggests as the measures best adapted for local conditions that all applicants to the dispensary should have to pass first through a room where an inspector demands a certificate testifying to the bearer's lack of means or a line from a physician indorsing his application. A card is then given the applicant and he can then proceed to the dispensary proper, or to the clinic or ward. No one is admitted to the dispensary or clinic without presentation of a numbered card of this kind. The inspector is always at liberty to pass an applicant directly into the dispensary or clinic when circumstances demand the avoidance of red tape delay, and an applicant accompanied by his physician should also have free right of way. By some such sifting process the dispensaries and hospitals could be kept free for the poor, while those able to pay for medical attendance would be excluded from them.

Marriages

John L. Sweeney, M.D., to Miss Elsie F. Weeks, both of Chicago, November 15.

Howard E. Wooden, M.D., to Miss Edith Marie Collier, both of Baltimore, November 8.

Wade Hampton Nash, M.D., to Miss Julia A. Pesold, both of St. Louis, November 14.

Roger Griswold Perkins, M.D., to Miss Edna Brush, both of Cleveland, November 14.

Orrin Sage Wightman, M.D., to Miss Purl Parker, both of New York City, November 9.

Joseph N. Roy, M.D., Webster, Mass., to Miss Eva Lambert of Pascoag, R. I., October 31.

Robert W. Williams, M.D., to Miss Emma Kees, both of Cleveland, Ohio, November 14.

George E. Saunders, M.D., to Miss Helen Rogers, both of Des Moines, Iowa, November 15.

J. Samuel Price, M.D., to Miss Maybel Hasbrouck, both of Beaumont, Texas, November 12.

John Wesley Phillips, M.D., to Miss Laura Van Dyne, both of Troy, Pa., November 15.

William S. Jackson, M.D., to Miss Blanche Hambitzer, both of Houghton, Mich., November 15.

William A. Selman, M.D., Atlanta, Ga., to Miss Elizabeth Crouch of Gay, Ga., November 15.

A. F. Johnson, M.D., Petersburg, Neb., to Miss Florence Hall of Exeter, Neb., November 22.

W. Price Zimmerman, M.D., Batesburg, S. C., to Miss Mary Swygert of Peale, S. C., November 9.

Guy Stone, M.D., Keswick, Iowa, to Miss Agnes Kay Chubb of Michigan City, Ind., November 15.

Adelbert D. Head, M.D., to Miss Sarah Elizabeth Roberts, both of Syracuse, N. Y., November 21.

James A. Young, M.D., Pearl, Idaho, to Miss Anne Llewellyn Walter of Boise, Idaho, November 15.

Leander B. Dean, M.D., Blaine, Ky., to Miss Mollie Hutchinson of Fallsburg, Ky., November 16.

Warren J. Karterman, M.D., Hepler, Pa., to Miss Minnie M. Kehler of Kehler, Pa., November 8.

Browning G. Pitts, M.D., Lydia, S. C., to Miss Belle Watson of Ridge Spring, S. C., October 19.

Joseph C. Rauth, M.D., Upper Sandusky, Ohio, to Miss Lillian Ley of Tiffin, Ohio, November 22.

Charles H. North, M.D., Dannemora, N. Y., to Miss Luella B. Robinson of Clyde, N. Y., November 15.

Wilbert E. Fordyce, M.D., to Miss Nellie Elizabeth Humphrey, both of Oelwein, Iowa, November 16.

Edward Marshall Sandidge, M.D., Clifford, Va., to Miss Lottie Walker of Salem, Va., November 15.

John Walker, M.D., Lynchburg, Va., to Miss Laura May Stebbins of South Boston, Va., November 29.

Samuel Warren Hobbs, M.D., Aurelia, Iowa, to Miss Harriet D. Peters of Clinton, Iowa, November 11.

Elwin W. Capen, M.D., Monson, Mass., to Miss Fannie Louise Barnes of Westfield, Mass., November 8.

Hugh O. Morgan, M.D., to Miss Olga U. Von Hagen, both of Elkton, S. D., at Brookyngs, S. D., November 3.

Lewis N. Foote, M.D., Brooklyn, N. Y., to Miss Mabel Shull Ackler of Ilion, N. Y., at Utica, N. Y., November 15.

Robert Lawrence Corbell, M.D., Norfolk, Va., to Miss Nancy Alberta Webb, at Vienna, Md., November 21.

Clarence Fontaine Maury Leidy, M.D., Philadelphia, to Miss Margaret Howard Ridgely, at Baltimore, November 25.

Harry E. Sutton, M.D., Cold Springs, Minn., to Miss Rosemund M. Garner of Spokane, Wash., in Watertown, S. D., November 16.

Robert E. Noble, M.D., first lieutenant and assistant surgeon, United States Army, to Miss Ella Lupton of Auburn, Ala., November 23.

Walter C. Chidester, M.D., lieutenant and assistant surgeon, United States Army, to Miss Marie Bull of San Francisco, November 22.

Levy M. Hathaway, M.D., lieutenant and assistant surgeon, United States Army, to Miss Mary Frances Weir of Owensboro, Ky., November 27.

Deaths

De Villo White Harrington, M.D. University of Buffalo (N. Y.) Medical Department, 1871; a member of the American Medical Association, New York State Medical Association, Erie County Medical Society, Buffalo Academy of Medicine, and Cavalry Society of the United States Army; a veteran of the Civil War; professor of genitourinary and venereal diseases in the University of Buffalo Medical Department; consulting physician to the Buffalo General Hospital and Buffalo City Hospital; from 1876 to 1885 attending surgeon at the Sisters' Hospital; one of the best-known physicians of western New York, died at his home in Buffalo, November 20, from heart disease, after a long illness, aged 61.

Andrew Martin Pierce, M.D. College of Physicians and Surgeons in the City of New York, 1873; a member of the American Medical Association; member and once vice-president of the Massachusetts Medical Society; member and many times an officer of the South Bristol Medical Society; once president of the New Bedford Medical Society; for years physician to the poor department of New Bedford, and for twenty years a member of the staff of St. Luke's Hospital, died at his home in New Bedford, November 6, after an illness of about one year, aged 53.

Augustus Choate Hamlin, M.D. Harvard University Medical School, Boston, 1855; assistant surgeon of the Second Maine Volunteer Infantry; brigade surgeon and finally lieutenant-colonel in the Army during the Civil War; made chevalier of St. Ann by the Czar of Russia in 1878; commissioner from Maine at the Yorktown centennial in 1881; surgeon-general of Maine from 1882 to 1886; twice mayor of Bangor; widely known as an author, artist and as an authority on tourmalines, died at his home in Bangor, November 20, aged 76.

Benjamin Myers, M.D. Jefferson Medical College, Philadelphia, 1869; formerly state representative and probate judge of Ashland County, Ohio; a veteran of the Civil War; for three years a member of the board of trustees of the Ohio Central Insane Asylum, Celina; in 1884 mayor of Ashland, died at his home in Ashland, November 21, from pneumonia, after an illness of four days, aged 63.

William A. Burns, M.D. Medical Department of Western Reserve University, Cleveland, Ohio, 1898; a prominent colored physician of Dayton, Ohio; a member of the Dayton Academy of Medicine, died at his home in Dayton, November 19, from typhoid fever, after an illness of three weeks. At a special meeting of the Academy of Medicine, it was voted to attend the funeral in a body, and resolutions of sorrow and respect were adopted.

Charles M. Zeh, M.D. Castleton (Vt.) Medical College, 1848, one of the oldest physicians of Newark, N. J.; a member of the board of health and health officer for many years; a member of the Medical Society of the State of New Jersey and the Essex County Medical Society; consulting physician to St. Michael's Hospital, died suddenly at his home, November 13, from cerebral hemorrhage, aged 78.

Robert Edwin Coy, M.D. Chicago Medical College, 1891; a member of the American Medical Association, Illinois State Medical Society, and Winnebago County Medical Society; a member of the attending staff of the Rockford City Hospital, died at his home in Rockford, Ill., November 21, from pneumonia, after an illness of about one week, aged 57.

Henry A. Tingley, M.D. University of Buffalo (N. Y.) Medical Department, 1848; one of the oldest practitioners of Susquehanna County, Pa.; president of the school-board of Susquehanna; a surgeon in the Army during the Civil War, and president of the first soldiers' election board, died at his home in Susquehana, October 28, aged 85.

Andrew Thustin Pearsall, M.D. College of Physicians and Surgeons in the City of New York, 1861; assistant surgeon and late brigade surgeon in the Confederate service during the Civil War; local surgeon for the D., L. & W. Railway, died at his home in Owego, N. Y., from diabetes, after a long illness, November 17, aged 66.

Daniel H. Tarbell, M.D. (Philadelphia Med. and Surg. Reg.), 1880; a veteran of the Civil War; twice coroner of the northern district of Rensselaer County, N. Y.; president of Schagticoke, N. Y., for five terms, and health officer for twenty-eight years, died at his home in that village, November 10, after a long illness, aged 63.

John I. French, M.D. Tufts College Medical School, Boston, Mass., 1896: a member of the American Medical Association and Massachusetts Medical Society; instructor in materia medica and therapeutics in the Tufts College Medical School; police surgeon and member of the Board of Health of Winchester, Mass., died at his home in that city, November 18, from nephritis, aged 44.

William A. McCord, M.D. Vanderbilt University Medical Department, Nashville, Tenn, 1883; a member of the American Medical Association; one of the most prominent practitioners of Marshall County, Tenn., died at his home in Lewisburg, November 15, after a prolonged illness from disease of the stomach, aged 47.

Zaccheus Test, M.D. Department of Medicine of the University of Pennsylvania, 1855, but since 1859 not a practitioner owing to ill-health; one of the best-known educators of Indiana, died at his home in Richmond, November 3, from cerebral hemorrhage due to a fall downstairs two days before, aged 77.

William M. Mahoney, M.D. College of Physicians and Surgeons in the City of New York, 1891; an employe of the New York Department of Health; surgeon to the Metropolitan Throat and Nose Hospital, died at his home in New York City, November 16, from pulmonary hemorrhage, aged 47.

Ira Smith, M.D. Kansas City (Mo.) Medical College, 1879; a member of the American Medical Association; widely known in Cass and Bates counties, Missouri, where he had practiced for twenty-six years, was burned to death in a fire which destroyed his drug store at Austin, Mo., November 1.

James Carter, M.D. Chicago Medical College, 1880; a member of the American Medical Association; formerly of Rawlins, Wyo., and president of the Wyoming Medical Association, died at Robertsdale, Ala., where he had gone for his health nine months ago, November 17, aged 54.

James S. Trotter, M.D. University of Buffalo (N. Y.) Medical Department, 1891, of Buffalo; a member of the Erie County Medical Society and of the Buffalo Academy of Medicine, died on his farm at Waterford, Ont., November 11, after an illness of several months.

William F. Tait, M.D. Cincinnati, Ohio, 1866, of Galesburg, Ill.; a veteran of the Civil War; for several years assistant surgeon of the Soldiers' Home, Quincy, died at a hospital in St. Louis, November 8, from malignant disease of the face, aged 69.

Clarence Bartow, M.D. College of Physicians and Surgeons in the City of New York, 1905, ambulance surgeon of Roosevelt Hospital, New York City, was instantly killed by a collision of his ambulance with an automobile truck, November 25, aged 27.

William M. Woodworth, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1853; coroner of Crawford, Mich., and for many years county physician, died suddenly at his home in Grayling, November 1, aged 76.

William A. Bickers, M.D. University of Virginia Medical Department, Charlottesville, 1856, of Crooked Run, Va., died suddenly in his room at the Astor House, New York City, from cerebral hemorrhage, November 20, aged 69.

Julius A. Ruge, M.D. Humboldt Medical College, St. Louis, 1861; assistant surgeon of the Thirty-first Missouri Volunteer Infantry in the Civil War, died at his home in St. Louis, November 14, from heart disease, aged 69.

Whitcomb Phelps, M.D. Medical College of Ohio, Cincinnati, for many years a practitioner of Fort Wayne, Ind., died at the home of his sister in Troy, Pa., from disease of the stomach of long standing, November 12, aged 75.

Michael E. Scannell, M.D. Harvard University Medical School, Boston, 1891, of Worcester, Mass., died in the City Hospital, Worcester, November 16, from heart disease, after an illness of one week, aged 41.

Frank Fennell, M.D. Keokuk Medical College, College of Physicians and Surgeons, Keokuk, 1905, committed suicide by taking morphin at his office in Readlyn, Iowa, while despondent, November 2, aged 25.

Henry Noss, M.D. Long Island College Hospital, Brooklyn, N. Y., 1891, of Brooklyn, died at Verbeck, N. Y., November 18, from cerebral hemorrhage, after an illness of five years with spinal disease, aged 50.

Percy C. Smith, M.D. Medical College of Indiana, Indianapolis, 1898, formerly a practitioner of Swanton, Neb., died at his home in Los Angeles, Cal., November 3, after an illness of four weeks, aged 36.

William Finlaw, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1863, a surgeon in the Army during the Civil War, died at his home in Santa Rosa, Cal., November 17, after a short illness.

George Royal Shafer, M.D. Chicago, 1881, formerly a member of the Illinois State Board of Health, died at his home in Peoria, November 4 ,from rheumatic endocarditis, after a long illness, aged 47.

Norman L. Jones, M.D. Rush Medical College, Chicago, 1882, died at his home in Norton, Kan., November 17, from intestinal obstruction, for which an operation was made a few hours before.

Walter William Robison, M.D. College of Physicians and Surgeons, Chicago, 1897, died at his home in Edelstern, Ill., November 3, from the effects of an overdose of morphin, aged 35.

Willis J. White, M.D. Omaha (Neb.) Medical College, 1891, of Sioux City, Iowa, died at St. Joseph's Hospital in that city, November 13, from pneumonia, after an illness of five days, aged 40.

Thomas L. Painter, M.D. Medical College of Virginia, Richmond, 1868, of Knob, Va., died at the home of his son in Tazewell, Va., November 9, from nephritis, after a long illness, aged 64.

Patrick H. Gallagher, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1864, the oldest physician in the copper country, died at his home in Hancock, Mich., November 21, aged 74.

Mordecai C. Mendenhall, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died at his home in Vermilion Grove, Ill., November 15, after an illness of two weeks, aged 70.

Irwin A. Cofer, M.D. Southern Medical College, Atlanta, Ga., 1880, died suddenly from pulmonary hemorrhage, at the home of his nephew in Atlanta, Ga., November 17, aged 43.

Frank H. Russell, M.D. Rush Medical College, Chicago, 1899, died at his home in Kewanee, Ill., November 2, from tuberculosis, after an illness of more than a year, aged 35.

Zachary T. Magill, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, of Winters, Cal., died suddenly in Berkeley, Cal., November 9, from heart disease.

William B. Dunkle, M.D. Rush Medical College, Chicago, 1863, died at his home in Gelinan, Iowa, November 14, aged 70.

George H. Gilson, M.D. St. Louis Medical College, 1876, died at his home in Raymond, Ill., November 18, aged 56.

Frank M. Harry, M.D. Pennsylvania, 1878; formerly a burgess of Mount Joy, Pa., died at his home in that place, November 20, after a short illness, aged 57.

Arthur O. Bowman, M.D. Bellevue Hospital Medical College, New York City, 1891, died at his home in Roweaville, S. C., November 15, from diphtheria, aged 36.

James Vaughn Tabor, M.D. Harvard University Medical School, 1867, a veteran of the Civil War, died at his home in Hodgdon, Maine, October 24, aged 85.

Thomas Sullivan, M.D. Trinity Medical College, Toronto, Ont., 1881, died suddenly at his office in Springfield, Minn., from heart disease, November 10.

Frank A. Winne, M.D. Pennsylvania, 1878, died suddenly at his home in Brockport, N. Y., November 12, from cerebral hemorrhage, aged 55.

Jason P. Safford, M.D. Detroit (Mich.) Medical College, 1884, of Detroit, Mich., died in Plymouth, Mich., November 12, after a long illness.

Sarah J. Coe, M.D. Michigan, 1878, died at her home in Wilkesbarre, Pa., November 4, from paralysis, after an illness of three years.

John R. Manley, M.D. Cincinnati, 1895, died suddenly at his home in Buckhannon, W. Va., November 16, from heart disease, aged 45.

James F. Meeks, M.D. (Examination, Ohio), a surgeon in the Civil War, died at his home in Hoytville, Ohio, November 11, aged 71.

Joseph Watson, M.D. Ohio, 1853, of Cardington, Ohio, died suddenly in Detroit, Mich., from heart disease, November 2, aged 81.

John E. Gemmel, M.D. Manitoba Medical College, Winnipeg, 1888, died at his home in Rush City, Minn., November 11, aged 45.

Harriet Jackson Ravold, M.D. Illinois, 1894, died at her home in St. Joseph, Mo., November 17, after an illness of three years.

Robert B. Armstrong, M.D. Omaha (Neb.) Medical College, 1893, died recently at his home in Polk City, Iowa.

Francis A. Benham, M.D. Illinois, 1862, died at his home in Elkhart, Ind., November 19, aged 84.

Book Notices

The Physicians' Visiting List for 1906. Fifty-fifth year of its publication. Leather cover, with flap, pencil and pocket. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1905.

The fifty-fifth edition of this visiting list is furnished in four different weekly sizes, allowing for 25, 50, 75 and 100 patients respectively per week; in a perpetual edition with spaces for 1,300 and 2,600 names respectively, and in a monthly edition. The system used is different from that of Dr. Taylor's book, which we reviewed last week, in which each patient's account is by itself. This book is more of a day-book; each patient has a line, each day a column, and the entries are made in accordance with a table of signs, which includes all possible contingencies. Following the visiting list proper there are special pages for memoranda, addresses of patients, addresses of nurses, bills presented, vaccination engagements, obstetric engagements, births, deaths, and cash account.

A Text-Book of the Practice of Medicine. By J. M. Anders, M.D., Ph.D., LL.D. Illustrated. Seventh Edition. Cloth. Pp. 1297. Price, $5.50 net. Philadelphia: W. B. Saunders & Co., 1905.

In this seventh edition of Anders' text-book the original plan has been retained and the details of treatment of diseases have been given their proper prominence. Among the new subjects now treated more fully are: the Rocky Mountain spotted fever, splanchnoptosis, myasthenia gravis, pseudotuberculosis, benign cirrhosis of the stomach, intestinal lithiasis and calculi, emulsion-albuminuria, the sequelæ of valvular lesions, the Adams-Stokes syndrome, examination of patients for diagnosis of diseases of the stomach, and Cammidge's tests for glycerose in the urine. The sections on paratyphoid fever, beriberi and trypanosomiasis have been rewritten and the entire volume has been brought up to date. Important additions have been made to the sections dealing with those tropical and subtropical diseases which are being observed with increasing frequency in the temperate zone.

Queries and Minor Notes

TUBERCULOSIS ORGANIZATIONS.

Stanford University, Cal., Nov. 8, 1905.

To the Editor:—Can you furnish a list of tuberculosis leagues and societies in the U. S., also any suggestion concerning a way of getting at the progress of these leagues. I am anxious to secure a bibliography on the subject. James Rosenfeld.

Answer.—The following are the principal organizations working against tuberculosis in the United States:

1. The National Association for the Study and Prevention of Tuberculosis (organized June 6, 1904). President, Dr. Herman M. Biggs, New York; secretary, Dr. Henry Barton Jacobs, Baltimore; executive secretary, Professor Livingston Farrand. Office, 105 East 22d Street, New York City. The objects of the association are, the study of all forms of tuberculosis; the dissemination of knowledge concerning the disease; and the encouragement of its prevention and scientific treatment. The association aims to bring into co-operation all the various agencies working against the disease in America. It has aided in the organization of state and local work in many parts of the country, and by various means is spreading a knowledge of the subject and of its importance, among the people at large. One of the most important of these efforts is the Tuberculosis Exposition, which is to be held in New York, beginning November 28. (See The Journal, Nov. 25, p. 1664..)

2. The Tuberculosis Committee of the Charity Organization Society of New York (organized in June, 1902). Secretary, Mr. Paul Kennaday, 105 East 22d Street, New York City. In addition to much educational, scientific and legislative work, the committee has published a very complete and valuable "Handbook on the Prevention of Tuberculosis," in which every branch of the subject is fully and authoritatively treated.

3. The Committee on the Prevention of Tuberculosis of the Visiting Nurse Association of Chicago (established in June, 1903). Medical Director, Dr. Arnold C. Klebs. Central office, 1414 Unity Building, Chicago. This committee has provided medical and nursing care and instruction for over 1,000 poor consumptives. It has a staff of district physicians and nurses, with offices in the different quarters of the city, by whom patients are attended to, as well as instructed about their disease, its prevention and cure. Special attention is given to the compilation of statistics and to educational work, especially by means of lectures. It also maintains a library and bibliography on tuberculosis. The central office of the committee is also used by the Illinois State Association for the Prevention of Tuberculosis.

4. The Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis (founded February, 1903). Dr. Lawrence F. Flick, medical director, 238 Pine Street, Philadelphia, Pa. This is one of the most completely equipped and most efficient establishments connected with the movement. The institute maintains a hospital for advanced cases, a free clinic, and a laboratory. It also arranges lectures and does other educational work. The results of its first year's work have been published in a report, containing statistics from about 2,000 cases treated.

5. The Boston Association for the Relief and Control of Tuberculosis (organized in 1903). Alexander M. Wilson, general secretary; 8 Beacon Street, Boston. This committee carries on educational and statistical work, promotes the establishment of sanatoria and hospitals, and has done much to arouse interest in the subject among trades unions.

There are similar societies or committees carrying on this work in the following cities: Hartford and New Haven, Conn.; Washington, D. C.; Lexington, Ky.; Peoria, Streator, Jacksonville and Moline, Ill.; Cambridge, Mass.; Minneapolis; St. Louis; Binghampton, Buffalo and Rochester, N. Y.; Cleveland, Toledo and Youngstown, Ohio; Scranton, Pa.; Newport, R. I.

Among the most important state organizations are the following:

The Pennsylvania Society for the Prevention of Tuberculosis (organized in 1892). The first state society of its kind in America. It has done much educational and legislative work, and has agitated for better sanitary conditions.

The Tuberculosis Commission of Maryland has made an extensive study of tuberculosis in Maryland, embodying the results in a report to the governor of the state, published in 1904. It also held a tuberculosis exposition in Baltimore, in January, 1904, which greatly increased interest in and knowledge of the subject.

The Illinois State Association for the Prevention of Tuberculosis (organized in January, 1905), has prepared and distributed literature, and has organized the work against tuberculosis in a number of towns. The association has also conducted a vigorous campaign for the establishment of a state sanatorium.

There are also state associations, committees or commissions in the following states: California, Georgia, Indiana, Iowa, Kentucky, Minnesota, New Hampshire, New Jersey, Ohio, Vermont and Wisconsin.

Among the more valuable works on the subject are these: "A Directory of Institutions and Societies Dealing with Tuberculosis." Charity Organization Society, New York, 1904. "A Handbook on the Prevention of Tuberculosis," Tuberculosis Committee of Charity Organization Society, N. Y., 1904. "First Annual Report of the Henry Phipps Institute." Philadelphia, 1905.

A complete list of all organizations, hospitals, dispensaries, etc., for tuberculosis was given in The Journal, Feb. 11, 1905, page 455.

State Boards of Registration

COMING EXAMINATIONS.

Wyoming Board of Medical Examiners, Cheyenne, December 6. Secretary, S. B. Miller, Laramie.

Examining Board representing the President and Fellows of the Medical Society of Delaware at Dover, and the Homeopathic Board, Wilmington, December 12. Secretary, P. W. Tomlinson, Wilmington.

Ohio State Board of Medical Registration and Examination, Columbus, December 12-14. Secretary, F. Winders, Columbus.

Medical Examining Board of Virginia, Richmond, December 12-15. Secretary, R. S. Martin, Stuart.

Board of Medical Examiners of Maryland, Baltimore, December 13-16. Secretary, J. McScott, Hagerstown.

State Board of Health of Missouri, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

Board of Medical Examiners State of California, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

Colorado March, July and October Reports.—Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, reports the oral and written examinations held at Denver, March, July and October, 1905.

At the March examination the number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 70. At the July and October examinations the number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 70.

At the March examination the total number of candidates examined was 3, of whom 2 passed and 1 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Physio-Medico College, Chicago	(1900)	70
College of Medicine and Surgery, Chicago	(1904)	78

FAILED.

College.	Year. Grad.	Per Cent.
Little Rock and Dallas, Texas, Med. Coll		31.9

At the July examination the total number of candidates was 4, including one osteopath. Two passed, 1 failed, and 1 failed to appear for examination.

PASSED.

College.	Year. Grad.	Per Cent.
Barnes Med. Coll., St. Louis	(1905)	70

FAILED.

Kansas Med. Coll. (1895)*
California Med. Coll. (1904)**

* Candidate took the oral and clinical examination, but refused to take the written one.

** Candidate failed to appear for examination. License refused.

At the October examination one candidate, a graduate of Starling Medical College (1855), took the oral and clinical examination, but refused to take the written one, and a license, therefore, was refused. A graduate of the College of Medicine and Surgery, Indianapolis (1894), applied for license but refused to appear for examination; in this case also the license was refused. A license was refused to one candidate on account of his moral character.

From April 20 to October 1 there were thirty applicants, not included in refused list, who have not been granted licenses, owing to the fact that after filing their preliminary papers they either failed to complete their applications or withdrew them. Some of these candidates failed to appear for legitimate reasons, such as changing their minds, etc., but the majority did so because they concluded after further investigation that they would be refused licenses. This explains why the percentage of refused applicants and written examinations is so low.

Iowa Requirements.—At the semi-annual meeting, November 1, the Iowa State Board of Medical Examiners ruled that, after July 1, 1906, they will consider no medical college in good standing which does not require as a condition for graduation not less than four courses of lectures of not less than seven months each, no two of which shall begin or end in the same calendar year; or which grants any advanced standing because of the possession of a literary or scientific degree. Graduates of colleges which do not fulfill the requirements will not be examined.

Idaho October Report.—Dr. J. L. Conant, Jr., secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, Oct. 3-4, 1905. The number of subjects examined in was 13; total number of questions asked, 110; percentage required to pass, 75. The number of candidates examined was 31, of whom 27 passed and 4 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Rush Med. Coll.,	(1880) 83.8; (1890) 82.8; (1902) 75; (1905)	93.3
Washington University. St. Louis	(1905)	84.8
	(1904) 83.1; (1905) 78.4,	81.8
Jefferson Med. Coll.	(1887)	77.9
University of Minnesota	(1901)	79.5
Hahnemann Med. Coll., Chicago	(1903)	80.9
University Med. Coll., Kansas City	(1904)	86.3
Kansas City Med. Coll.	(1904)	84.5
University of Michigan	(1905)	81.5
Central Med. Coll.	(1897)	77.5
University of Iowa, Homeo. Dept.	(1905)	80.3
Northwestern University	(1904) 80; (1905)	83.2
University of Colorado	(1905)	85.9
Kansas Med. Coll.	(1904)	78.4
University of the South, Sewanee	(1904)	87
Herring Med. Coll., Chicago	(1903)	75
University of Nebraska	(1892)	79.3
Kentucky School of Medicine	(1905)	88
University of Toronto	(1904) 81.2, 87.3	88.2
Denver & Gross Coll. of Med.		

FAILED.

College.	Year. Grad.	Per Cent.
Ft. Wayne Med. Coll.	(1892)	73.6
University of Michigan	(1901)	72.3
University of Louisville	(1883)	38
Bennett Med. Coll., Chicago	(1900)	68.2

Oregon April Report.—Dr. B. E. Miller, secretary of the Board of Medical Examiners of the state of Oregon, reports the written examination held at Portland, April 20, 1905. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 54, of whom 28 passed and 26 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Oregon	(1905) 75.3, 79, 79.40, 79.8, 79.8, 80.8, 81, 81, 81, 81.5, 82.9, 84, 86.6,	86.7.
Willamette University	(1905) 78.6, 79,4, 79.4, 81.3,	83.4
College of P. and S., San Francisco	(1904)	84.6
Rush Med. Coll	(1895) 81.8; (1897)	80.8
Woman's Med. Coll., Pennsylvania	(1904)	88.4
University of Nashville	(1896)	76.6
University of Baltimore	(1899)	82.2
University of Michigan	(1885)	87.2
College of Med. and Sur., Minn	(1901)	81.8

FAILED.

College.	Year. Grad.	Per Cent.
Medico-Chirurgical College, Missouri	(1905)	69
Marion-Sims-Beaumont Coll., Missouri	(1904)	71
Marion-Sims Med. Coll.	(1891)	69
Illinois Med. Coll.	(1892)	71.8
Rush Med. Coll.	(1892)	71.8
American Coll. of Med. and Surg., Illinois	(1904)	51.6
California Med. Coll.	(1902)	71
Dallas Med. Coll., Texas	(1904)	31.5
Hahnemann Med. Coll. Hosp., California	(1897)	30.9
University of Oregon	(1905) 71, 74, 74, 74, 74, 74.8, 74.8, 74.4, 74.5, 71.2, 71, 71,	71.
Willamette University	(1905) 74.7, 72.4,	73
Nongraduates	71,	56.2

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 25:

Hoff, John Van R[illegible]al, ordered to report in person to the chief [illegible] duty in his office.

DeWitt, Wallace, a[illegible]bsence extended ten days.

Frick, Euclid B., [illegible] accompany troops G and H, Third Cavalry, f[illegible]nn., to San Francisco.

Collins, C. C., ass[illegible], granted thirty days' leave of absence, with permission to apply for thirty days' extension.

Lippitt, Wm. F., surgeon, granted four months' leave of absence.

Rockhill, E. P., asst.-surgeon, ordered to report to Lieut.-Col. Geo. H. Torney, deputy surgeon general, president, examining board, General Hospital, Presidio of San Francisco, for examination to determine his fitness for advancement, on December 29.

Metcalfe, R. F., asst.-surgeon, ordered, on arrival at San Francisco, to proceed to Fort Leavenworth, Kan., for temporary duty. On return of Asst.-Surgeon Buck to that post, Asst.-Surgeon Metcalfe will proceed to Columbus Barracks, Ohio, for station.

Lippitt, Wm. F., surgeon, granted leave of absence from December 19, 1905, to January 5, 1906.

Owen, Wm. O., surgeon, having been found by an army retiring board incapacitated for active service on account of disability incidental thereto, his retirement from active service by the President, November 23, is announced.

Koerper, C. E., asst.-surgeon, in addition to his present duties will report at Washington Barracks, D. C., for temporary duty.

Havard, Valery, asst.-surgeon general, left Governor's Island, N. Y., with department commander on inspection tour.

Raymond, Henry I., surgeon, left Columbus Barracks, Ohio, with recruits to Vancouver Barracks, Washington.

Farrow, Edgar J., contract surgeon, ordered to sail for Manila, P. I., November 25, for duty in the Philippines Division.

Hereford, John R., contract surgeon, granted an extension of one month to his leave of absence.

Wing, Franklin F., dental surgeon left Fort Des Moines, Iowa, and arrived at Jefferson Barracks, Mo., for duty.

Carpenter, Alden, dental surgeon, left Boise Barracks, Idaho, for Vancouver Barracks, Washington, his proper station.

Daywalt, George W., contract surgeon, left Fort St. Philip, La., on leave of absence for one month, twelve days.

Mason, George L., dental surgeon, ordered from Fort McPherson, Ga., to Fort Fremont, S. C., for two weeks' duty; to go thence to Fort Moultrie, S. C., for one month.

Wolven, F. Homer, dental surgeon, granted leave of absence for fifteen days.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending November 25:

Guthrie, J. A., surgeon, orders of November 8, modified; granted sick leave for three months.

Ledbetter, R. E., P. A. surgeon, detached from the Navy Yard, Norfolk, Va., and ordered to the *Glacier*.

Traynor, J. P., asst.-surgeon, ordered to the Naval Hospital, Boston.

Miller, J., asst.-surgeon, detached from the *Lawton* and ordered to duty at Midway Islands.

Hart, G. G., acting asst. surgeon, detached from the *Glacier* and ordered to the naval recruiting station, Buffalo, N. Y.

Tyree, F. W., acting asst-surgeon, detached from duty at Midway Islands and ordered to duty at the naval training station, San Francisco.

Evans, S. G., surgeon, ordered to the naval recruiting rendezvous, Denver, December 1.

Miller, J. T., acting asst.-surgeon, detached from the naval hospital, Sitka, Alaska, and ordered home to wait orders.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 22:

Vaughan, George T., assistant surgeon-general, granted leave of absence for four days from November 15.

Bailhache, P. H., surgeon, granted leave of absence for ten days from November 20.

Sawtelle, H. W., surgeon, granted extension leave of absence for twenty days, from November 23.

McIntosh, W. P., surgeon, twenty-one days leave of absence granted from November 15, amended to read twenty-one days from November 18.

Rosenau, M. J., P. A. surgeon, granted leave of absence for fourteen days from November 22.

Parker, H. B., P. A. surgeon, granted leave of absence for twenty days from December 15.

Anderson, J. F., P. A. surgeon, leave of absence granted for one month from November 1, amended to read eighteen days from November 1.

Corput, G. M., P. A. surgeon, directed to proceed to Pascagoula, Miss., for special temporary duty.

Berry, T. D., P. A. surgeon, leave of absence temporarily revoked and directed to proceed to Biloxi, Miss., for special temporary duty.

Warren, B. S., P. A. surgeon, granted extension leave of absence for one month from December 3.

Bahrenburg, L. P. H., Burkhalter, J. T., and Boggess, J. S., asst.-surgeons, to report to chairman of board of examiners at Washington, D. C., December 4, for examination to determine their fitness for promotion to the grade of passed assistant surgeon; on completion of this duty to rejoin station.

Jackson, J. M., acting asst.-surgeon, granted six days' leave of absence, from November 5.

Mohr, H. B., acting asst.-surgeon, granted leave of absence for thirty days, from December 1.

Small, E. M., acting asst.-surgeon, granted leave of absence for fourteen days beginning December 7.

Frick, John, acting asst.-surgeon, granted leave of absence for thirty days, from December 1.

Kennard, Karl S., acting asst surgeon, granted leave of absence for fourteen days, from November 27.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for twenty-one days from Dec. 11, 1905.

Tarbell, B. S., acting asst.-surgeon, granted leave of absence for ten days from November 21.

Richardson, S. W., pharmacist, granted leave of absence for twenty-three days from November 23.

BOARD CONVENED.

Board to meet at Washington, D. C., December 4, for the examination of assistant surgeons. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman: Assistant Surgeon-General J. M. Eager; P. A. Surgeon John F. Anderson, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the surgeon general, Public Health and Marine-Hospital Service during the week ended November 20.

SMALLPOX—UNITED STATES.

[illegible]cisco, Oct. 29-Nov. 11, 7 cases.
[illegible] Nov. 4-11, 1 case.
[illegible]: New Orleans, Nov. 4-11, 2 cases.
Michigan: [illegible] Nov. 4-11, 4 cases.
O[illegible] Nov. 11-18, 5 cases.
P[illegible] Nov. 11-18, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Aug. 1-31, 28 deaths.

Brazil: Bahia, Oct. 1-21, 117 cases, 3 deaths; Pernambuco, Sept. 17-30, 208 deaths; Rio de Janeiro, Oct. 8-15, 6 cases, 6 deaths.

Canada, Toronto, Nov. 4-11, 5 cases.

England, Leeds, Oct. 29-Nov. 4, 1 case; Nottingham, Oct. 14-21, 1 case.

France: Paris, Oct. 21-28, 8 cases.

Gibraltar: Oct. 29-Nov. 4, 4 cases.

India: Bombay, Oct. 10-17, 2 deaths.

Italy: Catania, Oct. 28-Nov. 2, 2 cases; Genzano, 2 cases; Magliano Dei Marti, 1 case; Messina, Oct. 21-28, 1 death; Troina, Oct. 28-Nov. 2, 2 cases; Vallelonga, 2 cases.

Russia: Moscow, Sept. 23-Oct. 14, 16 cases, 10 deaths; Odessa, Oct. 14-21, 9 cases; St. Petersburg, Oct. 1-21, 5 cases.

Spain: Barcelona, Oct. 21-31, 3 deaths.

Turkey: Constantinople, Oct. 22-29, 2 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Pensacola, Nov. 9-16, 1 case, 1 death.

Louisiana: New Orleans, Nov. 4-11, 2 cases, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 8-15, 2 deaths.

Honduras: Choloma, Nov. 15, present; Puerto Cortez, 2 cases; San Pedro, 3 cases.

Mexico: Vera Cruz, Oct. 29-Nov. 4, 2 cases, 1 death.

CHOLERA—FOREIGN.

Germany: Kurzebrack, Sept. 3-9, 4 cases, 2 deaths; Adolfsdorf, Sept. 1-Oct. 14, 12 cases, 2 deaths; Czarnikkau, to Sept. 2, 2 cases, 2 deaths; Dratzig, Sept. 3-9, 3 cases, 3 deaths; Grandenz, to Sept. 9, 8 cases, 2 deaths; Gnesen, Sept. 3 9, 3 cases; Rastenburg, 1 case; Sommerau, 1 case, 1 death; Steinfurth, Sept. 1-7, 1 case; Warnikeim, Sept. 10-16, 1 case, 1 death; Stolpe, Oct. 1-21, 19 cases, 1 death; Strasburg, Oct. 15-21, 1 case.

India: Calcutta, Sept. 23-Oct. 14, 127 cases.

Russia: Vistula Territory, Oct. 11-18, 26 cases, 14 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Oct. 1-31, 7 deaths.

PLAGUE—FOREIGN.

Australia: Sydney, Aug. 1-31, 1 death.

Brazil: Rio de Janeiro, Oct. 8-15, 5 deaths.

India: General, Oct. 7-14, 4,294 cases, 3,395 deaths; Bengal, 88 cases, 65 deaths; Bombay, Oct. 10-17, 14 deaths; Calcutta, Sept. 23-Oct. 14, 26 deaths; Karachi, Oct. 10-17, 10 cases, 8 deaths.

Japan: Kobe, Oct. 14-21, 2 cases, 2 deaths.

Peru; Lima, Oct. 11-20, 7 cases, 4 deaths; Sept. 21-30, 4 cases, 2 deaths; Payta, Oct. 11-20, 1 case, 1 death, Sept. 21-30, 3 cases, 2 deaths; Mausiche, 3 cases.

Medical Organization

California.

Alameda County Medical Association.—Dr. J. N. McCormack, organizer for the American Medical Association, delivered an address before the Alameda County Medical Association, October 18, in which he urged the benefits of organization.

Long Beach Medical Society.—The medical fraternity of Long Beach assembled, October 27, to meet Dr. J. N. McCormack, organizer of the American Medical Association, and Dr. Philip Mills Jones, San Francisco, secretary of the State Board of Health, with the object of effecting a local organization. After addresses by the visitors, an organization was formed, with Dr. Homer O. Bate, president, and Dr. Joseph M. Holden, secretary.

Northern California Medical Association.—This association completed its organization at Redding, October 23, by electing the following officers: Dr. Clarence E. Reed, Redding, president; Dr. Thomas J. Edgecomb, Shasta, vice-president; Dr. Robert F. Wallace, Redding, secretary and treasurer; Drs. Sherman T. White, Redding, Robert T. Legge, Siskiyou, and Lucian A. Bauter, Redding, executive committee, and Drs. Ferdinand Stabel, Redding, and George E. Flora, Igo, finance committee.

Georgia.

Elbert County Medical Society.—The physicians of Elbert County met at Elberton, November 15, to discuss the organization of a county medical society.

Georgia Medical—Chatham County Medical Society.—At a joint meeting of the Georgia Medical Society and the Chatham County Medical Society, held in Savannah, October 27, preliminary measures were taken to amalgamate the two societies, in conformity with a resolution passed at the last annual meeting of the state medical association, providing for one society in each county. The meeting was called by Dr. John S. Howkins, Savannah, councilor of the First District, who presided, and Dr. Martin J. Cooley, Savannah, acted as temporary secretary. A constitution and by-laws were adopted as prescribed by the American Medical Association.

Meriwether County Medical Society.—The physicians of this county met in Greenville, October 18, and organized a county medical organization, with the following officers: Dr. Edward B. Terrell, Greenville, president; Dr. Jesse S. Snead, St. Marks, vice-president; Dr. Pryor W. Fitts, Greenville, secretary and treasurer, and Drs. John W. Pinkston, Greenville, F. H. Letson, Lone Oak, and Charles E. Stipe, Odessadale, *censors.*

South Georgia Medical Association.—This association was organized at Cordele, November 1, under the auspices of the Georgia Medical Association, with the aid of Dr. R. E. Lee Barnum, Richland, councilor for the third congressional district, with 15 charter members. The following officers were elected: President, Dr. J. T. Gammage, Pine View; vice-president, Dr. Archie Griffin, Luke; secretary and treasurer, Dr. Thomas J. McArthur, Cordele, and Drs. Virgie O. Harvard, Arabi, James A. Ward, Cordele, and L. A. Williams, Abbeville, censors.

Ware County Medical Association.—This association was re-organized at Waycross, October 20, on the standard plan. Dr. Jefferson D. Herrman, Eastman, councilor for the eleventh district, was present. Dr. Robert P. Izlar, Waycross, was elected president; Dr. James C. Rippard, Waycross, vice-president; Dr. H. M. Johnson, Waresboro, secretary, and Dr. F. C. Folks, delegate to the state association.

Pennsylvania.

Lawrence County Medical Society.—At its meeting, October 5, the standard constitution and by-laws was put in effect by this society.

Luzerne County Medical Society.—At a meeting of this society, October 5, Dr. Fell reported on the recent meeting of the state medical society in Scranton and gave a draft of the proposed new by-laws, which provide that any reputable physician, regardless of his school of medicine, is eligible for membership in the state and county societies, provided he carry on his work as a general practitioner and agree to practice nonsectarian medicine.

Dr. McCormack's Tour.

The Texas meetings have proved to be very successful, some of them the largest ever held in Texas. At many of the meetings there were present, in addition to the physicians, a good representation of teachers, lawyers, legislators, preachers and druggists.

Some of his meetings were as follows: Galveston, November 6; Houston, November 7; Waco, November 8; Fort Worth, November 10; Dallas, November 13; Tyler, November 15; Paris, November 17; Bonham, November 20, and Gainesville, November 23.

As the strongest arguments for organization Dr. McCormack detailed the benefits to the profession and to the laity that would be sure to follow. He compared the general pleasant relations among lawyers with traditional discord among doctors. The lawyers are on good terms because they are frequently closely associated in court and become well acquainted in the ordinary course of their professional work. Physicians work in isolation and must create for themselves the needed opportunity for mingling—the county medical society. Mutual acquaintance paves the way for the co-operation that is essential to the profession if it is to accomplish the great things for which its knowledge fits it. Postgraduate study was urged on every physician as indispensable to real success. Physicians and laity should support the anti-nostrum crusade so well begun by prominent lay journals. [In this connection Dr. McCormack writes that a surprisingly large number of country papers are republishing the *Collier's* exposures and delaring their independence of the now notorious "red clause."]

From Dallas, Texas, there comes news that Dr. McCormack's appeals have already borne fruit. It is announced that joint meetings will be held of the physicians with, first, the lawyers (to discuss legislation and medical testimony), and second, with the clergy, for the purpose of arranging for co-operation in efforts to improve social conditions.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

BOSTON MEDICAL LIBRARY MEETING.

Regular Meeting, held Nov. 15, 1905.

Dr. Richard C. Cabot in the Chair.

The purpose of the meeting was to demonstrate the practical usefulness of "moving pictures" in teaching students or illustrating medical subjects.

Dr. Walter B. Chase of Brookline told of the rapid developments of this work during the past few years and of his own application of it. He demonstrated the special camera needed, the films, etc., and explained how they are prepared. He has taken in this way about 37,000 pictures, of which 22,000 are of epileptic seizures, including all classes of cases, even the "status epilepticus." They were taken at the Craig Epileptic Colony at Sonyea, N. Y. Other pictures shown by the biograph were athetosis, rhythmic idiots, nystagmus and a variety of gaits. He believes that soon it will be possible to show the heart beating, and the pupil of the eye dilating and contracting.

Dr. W. B. Cannon demonstrated, also by the biograph, the movements of the stomach and intestines. These pictures were obtained by the *x*-ray fluoroscope, the food having been impregnated with bismuth subnitrate. Outline pictures were traced successively and photographed on the biograph film. The results as thrown on the screen clearly showed the waves of motion near the pylorus of the stomach and the quiet at the cardiac end. The latter suggests an opportunity for the salivary digestion. In the small intestine he showed that peristalsis is less frequent than "rhythmic segmentation." In the upper part of the large intestine, close to the ileocecal valve, a distinct anti-peristalsis was demonstrated—the last effort of the digestive tract to separate nutriment from the food.

Dr. R. C. Cabot demonstrated five pictures of pyopneumothorax. The camera was located directly over the cadaver, and photographs were taken as the autopsy progressed while the organs were *in situ*, the photographs being colored to accord with the actual specimens. One unique fact thus made prominent was that in left-sided effusion the entire mediastinum is pushed to the right, the relative position of the heart being maintained.

SOUTHWESTERN TRI-STATE MEDICAL ASSOCIATION OF TEXAS, OKLAHOMA AND INDIAN TERRITORY.

Sixth Annual Session, held in Oklahoma City, Nov. 8-9, 1905.

The President, Dr. W. R. Blailock, Dallas, Tex., in the Chair.

Welcome.

The address of welcome on behalf of Oklahoma City was delivered by the Hon. B. M. Dilly, in place of Mayor Messenbaugh, who was unable to be present. Dr. Vene P. Armstrong, Dallas, Texas, responded. Dr. William T. Salmon, Oklahoma City, welcomed the visitors in behalf of the medical profession, and to this address Dr. James C. Loggins, Ennis, responded. President T. D. Turner, of the Chamber of Commerce, then welcomed the association in the name of that body and extended an invitation for a car ride.

Treatment of Insane.

Dr. John S. Turner, Terrell, Texas, in a paper entitled "Therapeutics Employed in the Treatment of the Insane," referred to the false economy of commonwealths in the profession for the insane and especially in the way of cottage treatment. He urged the great need of the proper transfer of nervous patients to reliable and reputable sanatoria for skilled treatment and proper feeding. He strongly commended care in feeding insane patients and urged the advantage of natural sleep over that induced by narcotics. He declared it often to be absolutely necessary that friends and relatives be kept away from patients.

Mental Responsibility.

Hon. B. F. Burwell, Oklahoma City, in his address on this subject, urged that physicians and surgeons make a special study of insanity in order that when they are called into court to offer expert testimony they may be qualified so to act. The problem of whether or not an individual committing a crime is mentally responsible is one of the greatest importance in the trial of criminal cases, as insanity is so often made the defense. The speaker urged physicians so to prepare themselves that they might be able to determine whether or not in any given case the defendant was insane and, if necessary, the extent of the mental alienation.

Division of the Fee.

A warm discussion arose during the discussion on the division of fees. It was found to be the consensus of opinion of those present that there should be no secret in such cases, and that the honorable course is to present separately the bill of the specialist and that of the physician who brings the patient to him. Such a course would remove from the patient any suspicion of unfair dealing.

Banquet.

The banquet held at the Threadgill was attended by 110 members, and Dr. A. De Bord Young, Oklahoma City, acted as toastmaster.

Election of Officers.

The following officers were elected: President, Dr. George W. West, Eufaula, I. T.; vice-presidents, Drs. Edward H. Troy, South McAlester, I. T.; Richard T. Edwards, Oklahoma City, Okla., and George H. Moody, San Antonio, Texas; secretary and treasurer, Dr. Rufus J. Crabill, Allen, I. T.; chairman of section on surgery, Dr. Charles M. Rosser, Dallas, Texas; materia medica and therapeutics, Dr. Mahlon A. Kelso, Enid, Okla.; eye, ear, nose and throat, Dr. L. Haynes Buxton, Oklahoma City, Okla.; state, medical and public hygiene, Dr. Arthur L. Anderson, Wilburton, I. T.; practice of medicine, Dr. Warren F. West, Waxahachie, Texas; diseases of children, Dr. U. A. D. Callamo, Coalgate, I. T., and obstetrics and gynecology, Dr. William B. Pigg, South McAlester.

South McAlester was selected as the next place of meeting, on Oct. 16 and 17, 1906.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Colic.

In making a diagnosis of colic, several things which may cause pain should be considered. According to Hutchison, whenever an infant screams almost constantly the possibility of colic should be thought of. Other causes for such outbursts may cause a mistake in the diagnosis. One of these is earache, another is teething, and there are still others, such as renal colic, phimosis, and tenderness of bones, as in scurvy. One of the signs, also, of defective cerebral development in young infants is screaming without any apparent cause. Colic, however, is commoner than all the other causes put together. The important signs of colic are hardness of the abdomen, the tendency to draw up the legs, and perhaps convulsions. When there is passage of flatus there is a cessation of screaming for a time, and this latter is the most positive symptom of colic.

In the treatment of an attack of colic, the first thing to be done, according to Hutchison, is to apply warmth to the abdomen. This can be done by means of friction with warm oil, by warm fomentations or by poultices of linseed or mustard; in extreme cases the mustard bath may be used. In addition to the external application of warmth, it can be applied internally by means of enemas of warm water. Two or three ounces of water should be injected as hot as the child can bear it; an effort should be made to reach as much of the large intestine as possible.

Carminatives should be given by the mouth in order to aid in the expulsion of flatus. Peppermint water and dill water are both suitable for this purpose. Ten drops (.65) of spiritus etheris nitrosi (sweet spirits of nitre) is also recommended and preferred by some authorities. Such measures as the foregoing, according to Hutchison, are usually effective in cutting short an attack of colic.

The next question to consider is how to prevent the recurrence of the attack. The author divides the cases into two groups: Infants that are breastfed and those which are bottlefed. Inquiry will usually show that the breastfed infant is nursed too frequently and often at irregular intervals. In such cases the simple regulation of nursing suffices. The time between the feedings should usually be lengthened. The mother is inclined to overfeed the child, because of the temporary relief afforded by the warm milk in the child's stomach, which, however, is frequently followed by a severe attack of colic, and in this way a vicious circle is formed. The clock should be brought into use in such cases to correct the irregular intervals between feedings. The presence of too much casein is responsible for the attacks in a great many cases. When such is the case, the administration of a few teaspoonfuls of lime water before each feeding is of advantage; it should be sweetened slightly to make it more palatable for the child. If the infant is constipated, as is so often the case in breast-fed children, this condition should by all means be corrected. On the other hand, bottle-fed infants are troubled with diarrhea, which must be corrected.

In the treatment of the constipation, a drastic cathartic, such as a large dose of castor oil at irregular intervals, should never be given. Massage should be applied to the abdominal muscles over the course of the colon, twice a day, morning and evening, for five or ten minutes at a time.

In the use of medicines to correct constipation, only those should be selected which have a tonic action on the coats of the intestine. To meet these indications, the following combination is recommended by the author:

℞.	Tinct. aloes	gtt. iii-v		20-.30
	Syrupi sennæ	gtt. xx	1	30
	Tinct. belladonnæ	gtt. ii		12
	Tinct. nucis vomicæ	gtt. ss		03
	Infusi gentianæ co. q. s. ad	ʒi	4	

M. Sig.: To be taken at one dose as a laxative.

The size of the dose should depend on the age of the child. The author recommends the addition of dill water, cinnamon water or peppermint water to the foregoing, if necessary to modify the taste and as a carminative.. In mild cases it may be necessary to give only one dose of the foregoing at night; in other cases it may be necessary to give it at regular intervals two or three times a day until the action of the bowels takes place at regular intervals, after which the medicine should be gradually discontinued.

If for any reason the foregoing combination does not meet the requirements of the case, or if vomiting is produced on account of the bitter taste, the confection of sulphur is recommended, giving half a teaspoonful (200) at night, or both morning and night, as infants will take it very readily. If, after correcting constipation, the colic persists and the child is losing weight, the question of changing the food should be considered.

In the prevention of colic in bottle-fed infants, cleanliness in preparing the milk is frequently wanting, in addition to the conditions already mentioned.

In all cases of colic, carminatives administered between the feedings are recommended by Hutchison. The carminative should contain certain definite ingredients and should be alkaline in reaction. For this purpose he recommends the following combination:

℞.	Sodii bicarb.	gr. iiss		15
	Spts. ammon. arom., āā	gtt. iiss		15
	Glycerini	m. ii		12
	Aq. menthæ piperitæ q. s. ad	ʒi	4	

M. Sig.: To be given to the infant at one dose, and repeated as necessary between the feedings.

The glycerin is preferred to syrup to render the taste pleasant on account of the liability of the latter to ferment. In addition to keeping the child warm, if it gains weight, one is perhaps not justified in producing too great an alteration in the food. Under such circumstances, opium in some form is recommended. The best preparation, according to this author, is codein given in doses of grain 1/40 to 1/30 (.0015-.0020), combined with glycerin and peppermint water. [While Hutchison recommends this dosage, it should be remembered that children are susceptible to opiates, and that it might be advisable to start with a smaller dose.] A combination similar to the following is recommended by some authors to relieve the colic of infants:

℞.	Spts. etheris comp.			
	Aq. camphoræ, āā	ʒii	8	
	Aq. menthæ viridis	ʒiv	15	
	Aq. dest.	ʒiii	12	

M. Sig.: One teaspoonful every two or three hours, to a child 2 or 3 years of age. Or:

℞.	Tincture opii camph.	gtt. xl	2	65
	Essentiæ feniculi	m. iv		15
	Syrupi zinziberis q. s. ad	℥ii	60	

M. Sig.: Fifteen to thirty drops in water every two hours to children under one year of age.

Psoriasis.

As an internal remedy in the treatment of psoriasis, the following combination is recommended by *Merck's Archives*:

℞.	Sulphuris precipitatæ	gr. iii		20
	Salol	gr. ii		12
	Olei gaultheriæ	m. ss		03
	Acidi arsenosi	gr. 1/30		002

M. Ft. capsula No. i. Sig.: One such capsule three times a day for an adult.

Sulphur in the Treatment of Chronic Nasal Catarrhs.

Kolipinski, in *Med. News*, states that sulphur is valuable in the treatment of simple chronic rhinitis, in the hypertrophic stage. Intumescent rhinitis is relieved by this preparation, but its effects in atrophic rhinitis are not so effective as during the earlier stages. In phlegmonous rhinitis the disease is often aborted by it. Scrofulous rhinitis, he says, can also be improved by its application. The immediate effects of sulphur are to check the purulent irritating discharge, to heal the excoriations, to improve the patient's pale and languid appearance and to stop the sniffling, sneezing, crust formation and odor. In epistaxis from any cause this is regarded by the author as one of the best preparations, but should be reinforced for twenty-four hours with a gauze tampon. It is a splendid postoperative dressing in surgery of the nasal cavities. The best preparation is the official sulphur precipitatum, United States Pharmacopeia. In the treatment of rhinitis, applications of sulphur should be made to the nares two or three times a week for one month, and then less frequently. It should be insufflated into the nares by means of an ordinary powder blower.

Treatment of Roentgen Ray Burns.

Engman, in an article in the *Ther. Gazette*, recommends, in the treatment of burns from the Roentgen ray, that the exposures be discontinued and lanolin applied for twenty-four hours, after which the following combination is recommended:

℞.	Acidi borici	℥iss	45
	Zinci oxidi		
	Bismuthi subnit.		
	Pulv. amyli, āā	℥i	30
	Olei olivæ		
	Aquæ calcis		
	Lanolini, āā	℥iii	90
	Aquæ rosæ	℥iss	45

M. Ft. unguentum. Sig.: Apply localy to the affected areas.

Satterlee, in the same periodical, recommends the following combination in the treatment of this condition:

℞.	Acidi carbolici	ʒiv	15
	Aquæ rosæ	℥iv	120

M. Ft. solutio. Sig.: Apply locally.

Tuberculous Glands.

The following combination is recommended by Thornton, in Denver *Medical Times*, in the treatment of tuberculous glands:

℞.	Syr. ferri iodidi	m. v		30
	Olei morrhuæ	m. xx	1	30
	Ext. pancreati	gr. i		06

M. Ft. cap. No. i. Sig.: One or two such capsules two hours after each meal.

E. P. Davis recommends, in addition to tonics, the following combination as an ointment:

℞.	Ichthyol	gr. x		65
	Ung. zinci oxidi			
	Lanolini, āā	ʒii	8	

M. Ft. unguentum. Sig.: Apply locally night and morning.

Suprarenal Extract in Asthma.

Dr. G. W. Kirby, Millersburg, Ind., calls attention to the marked opportunity before the physician to fulfill his high aim of relieving suffering and of prolonging life by relieving the intense suffering produced by a severe asthmatic attack. He declares that more rapid relief can not be obtained in any condition than that secured in the use of the blood-raising principle from the suprarenal gland. He injects subcutaneously from 8 to 15 drops of adrenalin, which has been diluted with an equal amount of sterile water. This affords the patient almost instant relief. Aside from a throbbing sensation in the head and a weakness of the limbs due to the stimulation of the heart, no bad results follow. To my knowledge, he continues, this drug has not been advertised to be used in this condition, nor have I known of its general use in practice. It gives some relief in every case, but its chief use can be considered specific in the treatment of the spasmodic form of asthma, where so much morphia is given.

Medicolegal

To Prevent the Buying and Selling of Infant Children.

No. 154 of the Laws of Pennsylvania of 1905 provides that if any person or persons shall, within that state, trade, barter, buy, sell, or deal in humanity, by trading, bartering, buying, selling, or dealing in infant children, he, she, or they shall be guilty of a misdemeanor, and on conviction thereof shall be sentenced to pay a fine not exceeding $1,000, or undergo an imprisonment not exceeding five years, or both, at the discretion of the court.

Use of Preservatives in Food Products.

No. 7 of the Public Acts of Michigan of 1905 provides that no person, firm or corporation shall manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any food product containing benzoic acid or benzoate of sodium, or any other harmless preservative, unless each and every package containing the same shall, in the condition in which it is exposed for sale, be distinctly, conspicuously and legibly branded, labeled or marked, in plain English letters, with the words "prepared with" followed by the proper English name of the preservative used; provided, that nothing in this act shall be construed to prohibit or regulate, by branding or otherwise, the use as a preservative of common salt, syrup, sugar, saltpetre, spices, alcohol, vinegar or wood smoke; and provided, further, that the provisions of this act shall not apply to dairy products.

New Grounds for Revoking Certificate.

No. 161 of the Public Acts of Michigan of 1905 amends the sixth division of section 3 of the medical practice act as amended in 1903 providing that the State Board of Registration in Medicine may revoke the certificate of registration, after due notice and hearing, of any registered practitioner for certain causes by adding thereto: "Or who for the purpose of procuring patients employs any solicitor, capper or drummer; or who shall subsidize any hotel or boarding house; or pay or present to any person money or other valuable gift for bringing patients to him."

No. 207 of the public acts of 1905 amends section 7 of said practice act by making the penalty for practicing medicine or surgery without a certificate of registration a fine of not more than $200, or imprisonment in the county jail for a period of not more than six months, or such fine and imprisonment, for each offense.

Restriction on Marriage.

Chapter 136 of the Public Acts of Michigan of 1905, in addition to retaining the prior provision that no insane person, idiot, or person who has been afflicted with syphilis or gonorrhea and has not been cured of same, shall be capable of contracting marriage, provides that no person who has been confined in any public institution or asylum as an epileptic, feeble-minded, imbecile or insane patient, shall be capable of contracting marriage without, before the issuance by the county clerk of the license to marry, filing in the office of the said county clerk a verified certificate from two regularly licensed physicians of the state that such person has been completely cured of such insanity, epilepsy, imbecility, or feeble-mindedness, and that there is no probability that such person will transmit any of such defects or disabilities to the issue of such marriage. Any person of sound mind who shall intermarry with such insane person or idiot or person who has been so confined as an epileptic, feeble-minded, imbecile or insane patient in any public institution or asylum, except on the filing of certificate as herein provided, with knowledge of the disability of such person, or who shall advise, aid, abet, cause, procure or assist in procuring any such marriage contrary to the provisions of this section, shall be deemed guilty of a felony and on conviction thereof shall be punished by a fine of not more than $1,000 or by imprisonment not less than one year nor more than five years, or by both such fine and imprisonment in the discretion of the court.

Provides for Sanatorium for Treatment of Tuberculosis.

No. 254 of the Public Acts of Michigan of 1905, an act to establish a state sanatorium in some suitable locality in Michigan, for the care and treatment of persons having tuberculosis, provides for a board of six trustees, four of whom shall be legally registered physicians, to be appointed by the governor. The trustees shall appoint a medical superintendent, not a member of the board, who shall be a legally qualified physician, of at least six years' experience in the practice of his profession, and who shall be chosen with a special view to his professional and executive ability. The medical superintendent, with the consent of the board of trustees, shall appoint such other officers, assistants and employes in and for the sanatorium as may be necessary, provided that all medical officers shall be well educated physicians. The medical superintendent shall be chief executive officer of the sanatorium. He or his representative shall daily ascertain the condition of each and all the patients, and prescribe or direct their treatment. There shall be received into the sanatorium such persons as shall be proved by proper bacteriologic or clinical examination to be suffering from tuberculosis. Such patients shall be of two classes, namely, first, persons resident of the state who on account of their poverty are unable to pay the necessary expenses for residence at the sanatorium; and, second, residents of the state who are able to pay such fees as shall be fixed by the board of trustees.

Provisions for Psychopathic Research.

No. 140 of the Public Acts of Michigan of 1905 provides that the joint board of trustees of the asylums for the insane of the state, in conjunction with the board of regents of the State University, shall select and employ from time to time an experienced investigator in clinical psychiatry, who shall be placed in charge of the psychopathic ward on the hospital grounds of the State University, and whose duty it shall be to conduct the clinical and pathologic investigations therein, to direct the treatment of such patients as are inmates of the psychopathic ward, to guide and direct the work of clinical and pathologic research in the several asylums of the state, and to instruct the students of the medical department of the university in diseases of the mind. In the conduct of this work he shall be allowed such graduate assistants as may be necessary and as the said board may approve. The said pathologist shall establish and maintain in said psychopathic ward a clinical laboratory of research in which investigations shall be continuously carried on with a view of determining the nature and causes of insanity and of perfecting the means of prevention and cure of diseases of this nature. Said pathologist shall make an annual report to the governor of the state on or before the first day of July of each year, of the medical work carried on at the psychopathic ward and in the clinical laboratory of research, and copies of such report shall be sent to the several boards of trustees of the various state asylums and to the board of regents of the State University. It shall be the privilege of the trustees of each public asylum of the state to have at any and all times at least one member of the medical staff of said asylum in the psychopathic laboratory of clinical research for special study, instruction and research.

To Secure Pure Foods.

Chapter 33 of the Laws of Wisconsin of 1905 makes it unlawful to manufacture, sell, ship, consign, offer for sale, expose for sale or have in possession with intent to sell for use or consumption within the state any article of food within the meaning of section 4600 of the statutes of 1898 and laws amendatory thereof (which would seem to make the term food include all articles used for food or drink), which contains formaldehyd, sulphurous acid or sulphites, boric acid or borates, salicylic acid or salicylates, saccharin, dulcin, glucin, beta naphthol, abrastol, asaprol, fluorids, fluoborates, fluosilicates or other fluorin compounds, or any other preservatives injurious to health; provided, however, that nothing contained in this section shall prohibit the use of common salt, saltpetre, wood smoke, sugar, vinegar and condimental preservatives, such as turmeric, mustard, pepper and other spices. Nor shall any article of food be manufactured, etc., containing an added substance, article or ingredient possessing a preservative character or action other than the articles named in the proviso of this act, unless the presence, name and proportionate amount of said added substance, article or ingredient shall be plainly disclosed to the purchaser.

Chapter 104 of the Laws of Wisconsin of 1905 amends section 4601a of the statutes of 1898 so as to make it unlawful to pack, can or preserve within the state, for use or consumption therein, fruits, vegetables, meats, fish or shellfish, or to sell, etc., for such use such canned articles containing saccharin, formaldehyd, sulphurous acid or sulphites, salicylic acid, or salicylates or any substance, article or ingredient other than sugar, salt, vinegar or spices, possessing a preservative character or action, or any copper compound or other artificial coloring, or any bleaching compound, or any article injurious to health.

Chapter 138 of the Laws of Wisconsin of 1905 prohibits the sale or delivery of adulterated milk or cream. Chapter 151 forbids the selling for maple sugar or maple syrup anything but the pure, unadulterated article. Chapter 152 is an act relating to the sale of syrups, molasses and glucose mixtures. Chapter 228 relates to the manufacture or sale of lemon extract and vanilla extract. Chapter 229 prohibits the sale of adulterated honey. Chapter 247 provides a standard for condensed milk and for evaporated cream.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Medical Record, New York.

November 18.

1 *Treatment and Care of Advanced Cases of Pulmonary Tuberculosis. S. A. Knopf, New York.
2 *Primary Cryptogenic Pneumococcus Cerebrospinal Meningitis. R. C. Cupler, Chicago.
3 *Penetrating Gunshot Wound of the Abdomen. J. H. Iden, U. S. N.
4 *Case of Typhoid Fever with Triple Intussusceptions. B. L. Bryant, Bangor, Maine.
5 *Antitoxin of Unusual Dosage in a Case of Scarlet Fever Complicated by Diphtheria. St. C. Streett, Kansas City, Mo.
6 Case of Anthrax—Probably Due to Inoculation—Without a Visible Initial Lesion. J. D. Jones, Utica, N. Y.

1. **Treatment of Advanced Cases of Pulmonary Tuberculosis.**—Knopf regards as advanced those cases of pulmonary tuberculosis that can no longer be classified as incipient or early. The advanced cases are divided into ambulant and bed cases. The former are those patients who are most of the time without fever, and in whom the systemic disturbances are only a little more aggravated than in the early stage. These cases may be treated as incipient, with the one exception, that if there is not a satisfactory gain in weight the patients should be put at rest in bed or on the reclining chair, constantly exposed to the open air. The ambulant patients are the most frequent sources of infection, and the greatest care must be taken to train them to dispose of their sputum properly. Several plans for accomplishing this are described. The bed cases are subdivided into four classes, namely, sanatorium patients, hospital patients, home patients—well-to-do, living either in cities or country—and the consumptive poor, living in villages or in city tenements. It is a matter of great difficulty to find proper accommodations for such patients, as sanatoria are usually unwilling to receive cases that do not offer a favorable prognosis. Knopf outlines the essentials for the institutional treatment of such patients, and then describes a great number of plans for applying the fresh-air principle in home treatment. One of the most serviceable of these, especially in dealing with the poor in cities, is a device invented by Knopf and known as the window tent. The patient lies on a cot, with his head beside the open window, to which is attached a sort of internal awning. This is arranged so that it shuts off the patient's head from the interior of the room, and permits the latter to be kept warm, while the effect is the same as if the patient were entirely out of doors. Other devices that are recommended are Bull's aërarium and Kellogg's *porte d'air*. These are intended to serve the same purpose of permitting the patient to remain indoors, while at the same time he is enabled to receive fresh air as freely as if he were not in the house.

2. **Primary Cryptogenetic Pneumococcus Cerebrospinal Meningitis.**—Cupler reports three cases of cerebrospinal meningitis in which pneumococci were found in the cerebrospinal fluid removed by lumbar puncture. One patient recovered after an illness of five weeks; the other two died at the end of thirty-six and forty-eight hours, respectively. Cupler has found caffein citrate excellent in combating the paralysis of respiration, and recommends lingual traction if stupor is deep and cessation of breathing imminent. Of lumbar puncture he says that it relieves the intracranial pressure, lessens the severity of the symptoms, assists in diagnosis, and meets the requirements of a rational principle in treatment.

3. **Penetrating Gunshot Wound of Abdomen.**—Iden's patient, aged 28 years, was accidentally shot in the abdomen in the region of McBurney's point, with a 32-caliber revolver. About four hours later, the abdomen was opened in the median line and was found full of blood. Nineteen perforations of the small intestine were discovered, as well as several wounds of the mesentery. At one place there were five perforations in four inches of gut, necessitating resection. End-to-end anastomosis was done, using the Cushing suture, and the other perforations were closed with purse-string sutures. The intestines were cleaned with gauze, wet with hot salt solution, and the wound closed without drainage. The operation consumed two and one-half hours, and at its close the pulse was imperceptible at the radial, facial, and temporal arteries, and the heart beats were from 170 to 180 a minute. In spite of the grave condition of shock, the patient rallied very quickly, and the wound healed by primary intention, the man returning to his work, perfectly well, fifty-one days after the operation.

4. **Typhoid with Triple Intussusceptions.**—Bryant and Bragg report this case. The patient was a man, aged 23, who, thirty-eight days after the first symptoms of his typhoid infection, which up to then had run an uneventful course, was suddenly seized with pain in the right iliac region, rise of temperature, and symptoms of shock. A perforation was suspected and the abdomen opened. It was found filled with clear serum, and, on drawing out the small intestine, a short distance from the ileocecal juncture an intussusception was found about eight inches long, invaginated both ways. A short distance further on a second intussusception was found about five inches in length, also invaginated both ways; and, drawing out more gut, there was a third intussusception about three inches long, invaginated from the right. Beyond this the gut appeared normal in color, excepting the infiltrated patches and lymph nodes due to the typhoid infection. Reduction of the invaginations was easily accomplished, but the patient died in shock five hours later.

5. **Unusual Dose of Antitoxin.**—Streett describes a case of scarlet fever, complicated by diphtheria, in which only after 67,000 units of antitoxin had been administered was there any response to treatment. The fresh product of two reliable firms was used. Streett says that the experience teaches the propriety and necessity of continuing the use of antitoxin even when the patient does not seem to respond to it, and the further necessity of increasing the dose administered until such time as results are obtained.

American Medicine, Philadelphia.

November 18.

7 *Clinical Experiences with Certain Drugs in Heart Disease. T. E. Satterthwaite, New York.
8 *An Area of Endemic Goiter in the Philippine Islands. L. C. Duncan, Manila, P. I.
9 *The Retroverted Uterus. A. P. Stoner, Des Moines, Iowa.
10 *Struggle Against Tuberculosis in Pennsylvania. J. M. Wainwright, Scranton, Pa.
11 Mental and Moral Effects of the Removal of Adenoids. E. A. Huntington, Philadelphia.

7. **Clinical Experiences with Certain Drugs in Heart Disease.**—Satterthwaite regards suprarenal gland as the most powerful heart stimulant known. As to the dangers from the nitrites and nitrates, he finds that their effects are always evanescent. Ordinarily in angina, in hypertension and in arteriosclerosis they are useful, but if they produce violent pulsation in an arteriosclerotic patient they should be suspended.

He says that iodin in some form or other should be the main reliance. Strychnin is a reliable heart stimulant, but should be used with discretion and in moderate doses. Larger doses produce nervousness and insomnia. It should never be continued more than a week or two at a time. Cactus is a good heart regulator, and strophanthus is excellent if prompt action is needed. Digitalis acts best when the arteries are flaccid, and just enough is given to restore normal tension. If the drug produces too much tension, the work of the heart is unnecessarily increased. In acute endocarditis, the fat heart, fatty degeneration, advanced arteriosclerosis, aortic diseases and in cardiac neuroses, digitalis may do serious harm. In deficient or failing compensation, digitalis is useful up to the point of producing normal arterial tension, after which its action is harmful, except in so far as it may increase diuresis. Circulatory depressants, such as antimony, veratrum, pulsatilla and hellebore are out of date, he states, in the treatment of cardiac diseases; but aconite is useful in cardiac neuroses. Satterthwaite places great reliance on camphor. In small doses it is a diffusible stimulant, improving the circulation and relieving arterial pressure, but it is also an antispasmodic and sedative. In threatened heart failure, if the nitrites fail, ammonium carbonate or oxygen, hypodermics of camphor in sterilized oil, may properly be used. Three-hundredths gram (½ gr.) to .13 gm. (2 gr.) may be dissolved in sterilized olive oil and injected hypodermically in divided doses.

8. **Area of Endemic Goiter in Philippines.**—Duncan reports goiter as being very prevalent in the municipality of Macabebe, which is but a few feet above sea level, on the northeast shore of Manila Bay. He ascribes the disease to the lack of potable water and to consanguinity and heredity which favor the continuance of the affection. Duncan estimates that in 1904 there were at least 20 cases per 1,000 of population and that the proportion is probably much greater.

9. **Retroverted Uterus.**—Stoner asserts that in many cases of recent dislocation in which the pelvic floor is intact the uterus may be replaced and retained without the use of instrumentation or operative procedure. A few such patients are permanently cured by prolonged rest, faradism, hot douches, and tamponment with gauze saturated with a preparation of ichthyol and glycerin. The tampon should be changed daily and snugly packed in front of the cervix, in order to prevent it from rotating forward. It thus aids in supporting the uterosacral ligaments. Nearly all supports act largely by their pressure on the uterosacral ligaments, which, in being rendered tense by the posterior upright bar of the pessary, the cervix is swung upward and backward. When, however, the pessary is withdrawn, the ligaments relax and the cervix drops downward and forward.

10. **Struggle Against Tuberculosis in Pennsylvania.**—Wainwright says that local boards of health take no cognizance of tuberculosis except in Philadelphia and in Erie. In Scranton and Pittsburg sputum is examined. In both state prisons efficient measures are being taken to prevent the spread of infection. Five societies have been formed to combat tuberculosis. They are in Philadelphia (state society), Pittsburg, Harrisburg and Scranton. An obstacle to progress in this work is the very general failure to make an early diagnosis and indifference to preventive measures when it has been made. Another serious menace is the general medical dispensary. In one dispensary in Philadelphia, last year nearly 900 people of the poorer classes were treated and in none of them was tuberculosis diagnosed. Wainwright recommends: 1. A state commission on tuberculosis should be appointed to frame legislation governing health boards and to determine the best system for sanatoriums. 2. Compulsory divisions for diseases of the lungs should be enforced in all dispensaries receiving state aid directly or indirectly through the hospitals or schools to which they belong. 3. The State Society for the Prevention of Tuberculosis should be put on a state basis with annual meetings at the same time and place as the state medical society; this society to collect material for an exhibit to be given together with public lectures in each city in which it meets. In this way, each large city in the state would be reached in a few years. The state society should do missionary work and should establish local societies in communities now without them.

Medical News, New York.

November 18.

12 Reminiscences of Dr. Thomas Addis Emmet. By Himself.
13 *Further Evidence of Immunity Against Cancer in Mice After Spontaneous Recovery. G. H. A. Clowes and F. W. Baeslack, Buffalo, N. Y.
14 *Female Type of Hand in Extension; or Sigmoid Carpus. R. Kingman, Brooklyn, N. Y.
15 *Diplococci and Pneumococci; Their Pleomorphism, Virulence and Mode of Causing Disease. E. Palier, New York.
16 Digitalis Treatment. F. Schwyzer, New York.
17 Partial Turbinectomy. C. H. Knight and J. F. McKernon, New York.

13. **Immunity Against Cancer.**—Clowes and Baeslack present the results of studies made by them on cancer immunity. About 1,600 mice have been employed in these experiments relating to the transplantation and development of the Jensen tumors. Thirty mice which had recovered spontaneously of genuine tumors or had been cured of their tumors by serum injection were reinoculated, and of this number 10 were inoculated for the third time. In no case did a tumor develop as a result of inoculation on a mouse which had previously recovered from a true tumor. By mixing cancer materials previous to inoculation with the serum of such spontaneously recovered mice and comparing its effect with that of cancer materials from the same source mixed with serum from normal mice, it was found that the former exerted an inhibiting effect, and that the percentage of tumors is much smaller and the percentage of mice surviving the treatment is larger in the immune than in the normal series. The author feels justified in announcing that all evidence thus far obtained in this field of research is distinctly in favor of the hypothesis that an immune body is present in mice which have recovered spontaneously from malignant tumors.

14. **Female Type of Hand.**—Kingman attempts to establish a characteristic difference in the male and female hand when in a position of extension under normal conditions, believing that further study and observation may show the absence of the sigmoid type in the female and its presence in the male to be of some diagnostic value in conditions of disease. It appears that males who live and work and think on a plane of continued high tension often exhibit the feminine form of hand. The position assumed by the normal female hand is designated by Kingman as the sigmoid carpus. By this is meant a double or S-shaped curve of the wrist and hand involving the portion of the upper extremity from the tips of the fingers to, and including, the lower ends of the radius and ulna. This S curve is made up of two parts, one being formed by flexion at the wrist where the carpus articulates with the ulna and radius, and the other by overexertion at one or more of the three finger joints (the first and second phalangeal and the metacarpophalangeal or knuckles). Viewed from above, the proximal arc of the S is convex and located at the wrist joint, while the distal arc is concave and located at one, two or three of the phalangeal articulations. From below, the reverse, of course, presents a proximal concave joined to a distal convex arc. The sigmoid carpus may best be observed in profile from the ulnar aspect of the hand, the characteristic appearance being somewhat obscured on the radial border by the thumb.

15. ***Diplococci and Pneumococci.***—Palier emphasizes the fact that the only reliable method of diagnosing pneumonia bacteriologically is to obtain cultures from the blood of patients suspected to have this disease. Furthermore, the cultures so obtained must be virulent to mice. Smear preparations or cultures from the sputum are valueless.

New York Medical Journal.

November 18.

18 Direct Fixation of Fractures. J. B. Roberts, Philadelphia.
19 Skiagraphic and Therapeutic Factors in Tuberculosis of the Bones and Joints, with Some Reference to the Iodoform Treatment. (Concluded). C. Beck, New York.
20 Short History of Splenectomy. J. H. Carstens, Detroit, Mich.
21 Plea for Routine Examination of the Middle Ear. E. Danziger, New York.
22 *Diagnosis of Gall-Bladder Disease. C. Graham, Rochester, Minn.
23 Chronic Headache, and Its Treatment by Massage (Concluded). F. Norstrom, New York.
24 Adjustment of X-Radiations for Various Physiologic Effects. R. H. Boggs, Pittsburg, Pa.

22. **Diagnosis of Gall Bladder Disease.**—Graham bases this paper on 135 cases seen by him and followed by operation. He

calls attention to the difficulties met with in diagnosticating disease of the gall bladder, especially when it simulates gastric ulcer, pleurisy, disease of the kidney, pancreatitis, and appendicitis. Particularly difficult of diagnosis are those cases in which the gall bladder contains but one large stone or, at most, a few large ones, and is shrunken down on its contents. In Graham's series there were 13 patients with few stones in the gall bladder; seven had but one, two had two stones, two others had three, and one had six. Of this number, two cases were duodenal ulcer, six had duodenum and stomach given first place, with gallstones or cholecystitis a poor second, five were typical enough to be little questioned as to the real trouble. In the whole series, four cases were diagnosticated duodenal ulcer, five ulcer and gallstones (twice both found), six ulcer of the stomach or perhaps gallstones, twelve were variously called stomach or duodenal ulcer, or appendicitis, too frequently failing to hint at cholecystitis or gallstones. One hundred and six cases were diagnosed without question as gall bladder trouble and the operation proved its truthfulness. In the two remaining cases stones were found when operating for pelvic tumors. One patient had a fibroid uterus, and a stone was found in the common duct with no history elicited. The second gave a history of ovarian tumor with twisted pedicle, but it was not found twisted at the operation and the gall bladder was filled with stones. Twenty-five patients were jaundiced when they presented themselves for examination and one gave a history of jaundice at the first attack. Graham says that this is too large a percentage of jaundice. The diagnosis and operation should be made while still an uncomplicated case of gallstones, when the mortality is extremely small (2.47 per cent.). If we wait for jaundice a complication has arisen which usually greatly increases morbidity and mortality (10.40 per cent.).

St. Louis Medical Review.

November 18.

25 The Cigarette, Its Relations to Mental and Nervous Diseases. W. B. Fletcher, Indianapolis, Ind.

Lancet-Clinic, Cincinnati, Ohio.

November 18.

26 *Unrecognized Responsibilities of Press and State in Conserving Health. B. Lewis, St. Louis, Mo.
27 Micrococcus Tetragenus the Immediate Predecessor of the Tubercle Bacillus. H. G. Graham, Elmdale, Kansas.
28 *Death Following Scopolamin-Morphin Injection. J. C. Sexton, Rushville, Ind.

26. See abstract in The Journal, Oct. 28, 1905, page 1353.

28. **Death Following Scopolamin-Morphin Anesthesia.**—Sexton's patient, aged 47, had been in poor health for five years, principally on account of excessive bleeding from the uterus. A diagnosis of fibroid was made and operation was advised. The patient was anemic and had a weak heart, but otherwise presented no evidence of disease, except of the uterus and ovary. She was prepared for operation as usual, and at 7:30 a. m. a hypodermic of scopolamin hydrobromate, 1/100 grain, and morphin sulphate, 1/6 grain, was given. The patient was sound asleep in fifteen minutes. At 8 a. m. she was found unconscious, slightly cyanosed, pulse 120 and throbbing, respiration 20 but very shallow, abdominal muscles and intercostals rigid, so that it was impossible to compress the lower chest and epigastria. The muscles were contracted markedly. The jaw dropped, the mouth was open, and the eyeballs were turned up. All efforts at resuscitation failed and the patient died at 9:15 a. m. without the least response to stimulants, pain, heat, flagellations or changing posture.

Boston Medical and Surgical Journal.

September 16.

29 City Physician, His Duties and Responsibilities. J. H. McCollom, Boston.
30 *Practical Photometric Method for Case Record. G. W. Fitz, Boston.
31 *Technic Employed in 100 Laparotomies with the View of Restricting the Employment of Drainage. L. J. Hammond, Philadelphia.

30. **Photometric Method for Case Records.**—To insure convenience and accuracy of handling and economy of time, expense and storage, Fitz has devised a method for photographically recording deformities. The method is briefly as follows: 1. The focus of the lens is adjusted for such selected image sizes of the subject as will give the desired ratios of size between subject and image (such as 6 = 100, 10 = 100, 14 = 100, 20 = 100, etc.). These foci and the corresponding distances of the subject from the camera are marked on the adjusting part of the camera or lens so that the focus can be instantly secured by merely setting an index to a mark and adjusting the patient's distance by means of a graduated tape or knotted string, and the photographs taken in the exact ratio without any delay for focusing or other adjustment. 2. The camera is arranged so that it will take three or four photographs of the same individual in different aspects on the same plate, thereby avoiding confusion in labelling and loss of identity of the several photographs. 3. An identifying number is photographed with each subject and absolutely identifies every photograph. 4. A transparent scale is made, based on the ratios of subject size to the image size selected for records, by which the photographic images may be measured as to any dimension, asymmetry or deformity, directly in inches or centimeters, as if one were measuring the patient himself, by the application of the scale to the face of the photograph. The apparatus employed and the methods of its use are described fully.

31. **Drainage and Laparotomy.**—Hammond's experience has convinced him of the worthlessness of the gauze drain in any shape or form, but he considers the gauze tampons, as recommended by Mickulicz, a rational means of avoiding infection of the neighboring viscera. Its value, however, is but temporary, and its presence as a foreign body not only lessens the power of resistance of the peritoneum, but goes far toward keeping up shock, encourages the excessive formation of adhesions, and is the commonest of all causes of about all of the postoperative hernias. The argument that is used by some, that gauze drainage is useful because Nature builds a wall around the infected area, can be logically employed as an argument against its use at all, as the fact that Nature does not shut out from communication with the general peritoneal cavity shows clearly its utter worthlessness.

University of Pennsylvania Medical Bulletin, Philadelphia.

October.

32 Histologic Changes Encountered in the Thymus and Elsewhere in a Case of Congenital Hypotonia. A. J. Smith, Philadelphia.
33 Natural Defenses of the Organism Against Infection.D. H. Bergey, Philadelphia.
34 Intrahepatic Gall Bladder. H. S. Wieder, Philadelphia.
35 Investigation on the Nature of the Bacteria in the Filtered Water Supply in Philadelphia. J. B. Rucker, Jr., Philadelphia.
36 *Fractures of the Head of the Radius. T. T. Thomas, Philadelphia.
37 Scopolamin-Morphin Anesthesia. H. Norris, Philadelphia.
38 Fat Content of Liebig's Meat Extract and of Witte's Peptone. J. Marshall, Philadelphia.
39 Treatment by Electricity of the Secondary Contractures Occurring in Hemiplegia. C. S. Potts, Philadelphia.

36. **Fractures of the Head and Radius.**—Thomas concludes that the skiagraph is not infallible in the diagnosis of the uncomplicated fractures of the radial head. The fragments are frequently so closely approximated by an intact orbicular ligament that the line of fracture may fail to show, especially if the place is an obscure one, or if the rays are directed in an incorrect plane. The fracture of the radial head is always partly and frequently entirely intracapsular, except for the thin attachment of the capsule to the lower edge of the fragment. This attachment probably furnishes an ample blood supply for the nutrition of the detached fragment, even if nonunion occurs. Except in very rare cases, such a fragment will not become a movable body in the joint, in the ordinary sense, since the orbicular ligament, the irregularity in the fractured surfaces, and the attachment of the fragment below will prevent movement of it. The part of the head which is broken off in the usual fall on the hand is anterior at the time of the fall; but, according to the later position of the forearm, may occupy any position within the arc of rotation of the forearm, which is approximately 180 degrees. Instead of being an exceedingly rare fracture, as hitherto believed, it is a common one, its peculiarly obscure nature having rendered it especially difficult of recognition. There are more cases of this fracture, represented by skiagraphs, in the hands of a few skiagraphers in Philadelphia (55), than Thomas could find after a thorough search of the literature (48), making a total of 103. Fractures of the neck of the radius are also common

and are usually associated with fractures of the head. They are frequently impacted, and are due to the same cause as the usual fractures of the head, i. e., to a fall on the hand with the elbow extended. Fractures of the radial head are frequently associated with posterior dislocations of the forearm bones at the elbow and with fractures of the coronoid process. In the usual skiagraph of a posterior dislocation of the elbow, showing a lateral view, the head of the radius is largely obscured by the ulna, and sometimes, also, by the condyles of the humerus; so that this fracture is probably often overlooked in such cases. In a fall on the hand the ground acts as a resisting body. The force is from above, the momentum of the falling body being exerted through the bones of the upper extremity. In extension of the elbow, only the anterior surface of the radial head is in contact with the capitellum, and, as the force is transmitted to the ground chiefly through the radius, this part of the radial head receives the brunt of the force and is frequently broken off. In an uncomplicated case, with distinct crepitus, the diagnosis will easily be made, providing ordinary care is taken in localizing the injury, even without a skiagraph. When available, however, the *x*-ray should always be employed. Severe complications at or near the elbow may render the diagnosis difficult, but the *x*-ray picture, if properly taken, should settle the question.

Ohio State Medical Journal, Columbus.

October 15.

40 *Surgical Pathology of One Hundred Mammary Tumors. W. J. Stone, Toledo, Ohio.
41 The Mammary Gland; When and How Shall It Be Removed. B. R. M'Clellan, Xenia.
42 *Observations on Cancer of the Breast. G. W. Crile, Cleveland.
43 Quarantine. G. B. Spencer, Weston, Ohio.
44 Quarantine of Diphtheria and Scarlet Fever. J. G. Wilson, Colerain, Ohio.
45 Laboratory Diagnosis of Diphtheria and Tuberculosis. E. G. Horton, Columbus.
46 Roentgen Pictures in Orthopedic Surgery. H. O. Feiss, Cleveland.
47 Typhoid Fever, with Special Reference to Treatment. J. B. Woodworth, Delaware, Ohio.

40. *Surgical Pathology of Mammary Tumors.*—Stone discusses particularly the class of true neoplasms comprising 100 cases. Of this number 79 per cent. were carcinomata of some kind, 5 per cent. were sarcomata, 15 per cent. were adenofibromata (four of which showed evidence of beginning carcinoma) and one patient had tuberculosis of the breast. Therefore, the malignancy of the entire series is 88 per cent.

42. **Analysis of Ninety-one Cases of Breast Cancer.**—The mean age of Crile's patients was 49; the oldest, 71; the youngest, 24; 64 per cent. occurred in patients between the ages of 40 and 60. Fourteen per cent. had never married; 35 per cent. had not borne children. In but 11 per cent. was there a distinct history of lactation complications of importance. In 33 per cent. there was retraction of the nipple. In 17 per cent. there was a discharge from the nipple. In 78 cases it was found that 37 per cent. had a definite hereditary history of malignant tumors. In 94 per cent. the disease was first discovered as a tumor, 67 per cent. of which were painless. In 6 per cent. the first symptom was purely subjective. The mean known duration of the tumor was 11 months; the greatest, 24 years; the least, 2 days. The right breast was involved in 54 per cent.; the left in 46 per cent. Dividing the breast into a central portion and four quadrants, the frequency of location is as follows: Upper outer, central, upper inner, lower outer, lower inner. In the upper hemisphere the tumor appeared precisely four times as frequently as in the lower. There were 61 cases of scirrhus, 9 of adenocarcinoma, 7 of medullary and 3 of alveolar carcinoma, 2 cases each of cancer cyst and carcinoma simplex and 1 case each of perithelioma, sarcoma, and epithelioma, and 4 cases of cancer. For the purpose of clinical study, the cases have been tabulated in three groups: The favorable, which includes those in which the breast tissue only was involved; unfavorable, including those in which there was local or regional extension, but not clearly without operative chance; and palliative, which includes those patients operated on for relief of intolerable local conditions without hope of ultimate cure. Of the 91 cases, 87 were classified as favorable, unfavorable or palliative. Of this number, 53 were favorable, 25 unfavorable, and 9 palliative. This classification was made on the clinical evidence prior to the operation, entirely independent of the later pathologic findings. In this series there was no immediate operative mortality. Up to the present time there have been but two instances of local recurrence of the disease. Deaths from the disease were due to metastases in the thorax, in the liver, the kidneys, the long bones, peritoneal cavity, pelvic organs, vertebral column, the stomach, and opposite axilla. In several instances metastasis occurred after the three-year period. Of the patients in the palliative group none is living; of the unfavorable group 14 per cent. are living; of the favorable group 80 per cent. are living without evidence of the disease. The surgical technic employed was essentially that described by Halsted.

American Journal of Urology, New York.

October.

48 [illegible] Recovery of Gonorrheal Urethritis. A. [illegible] Ohio.
49 [illegible] Urethritis in the Male. G. S. Peterkin.
50 *[illegible] Pelvis in the Treatment of Lithemia, Pyelitis and Certain Forms of Nephritis. F. M. Johnson, Boston, Mass.
51 *Anesthetic Impotence. F. W. Robbins, Detroit, Mich.
52 Choice of Technic in Prostatectomy. J. R. Wathen, Louisville, Ky.
53 [illegible] Methods of Determining Physiologic [illegible] r Operative Procedure. M. Krotoszyner San Francisco, Cal.

50. **Lavage of Renal Pelvis.**—Johnson is of the opinion that lavage of the kidney is not alone justifiable, but is a procedure whose importance demands recognition from the entire medical profession. Patience, gentleness and experience are necessary attributes in the successful application of this procedure. Lithemia is more quickly eradicated when, in addition to the usal treatment, lavage of the kidney is employed. Pyelitis is a condition that should be recognized at any stage as a danger signal and promptly treated. If possible, the cause should be ascertained and removed. Very mild cases require only rest, and the administration of salol or hexamethylenamin (urotropin) for all others, catheterization and irrigation with boracic acid or silver salt solutions once or twice weekly are indicated. Pyelonephritis may be treated in the same manner with similar agents. Ureteritis will heal under lavage with at first soothing and later mildly stimulating fluids. Chronic parenchymatous nephritis can be alleviated, and in certain phases cured, by proper irrigation combined with appropriate diet and internal medicaments; other forms of nephritis also are amenable in a degree to lavage.

51. **Anesthetic Impotence.**—Robbins reports an unusual case of impotence occurring in an able-bodied man, aged 36. The patient denied any venereal disease or other serious ailment. He never had any impelling desire of a sexual nature. Never has he had any temptation to masturbation or to sexual intercourse. Never has he had any seminal emission, except at night, and these have occurred since puberty at intervals of three or four weeks, and occasionally three or four times in one week. The cause has been looked on as psychic, but this explanation scarcely harmonizes with the fact that never from puberty has the patient had a normal sexual impulse, never felt any desire or temptation to masturbation and never experienced any frictional excitation. The only basis on which Robbins explains this condition is that of lack of sensitiveness in the nerve terminals of the glans penis and frenum. Various attempts were made to render those parts more sensitive, but without effect. Hypnotic suggestion has been considered but not employed. The possibility of there being some defect of the nerve arrangement in the cord has been thought of, but Robbins believes the anesthetic theory most reasonable.

Wisconsin Medical Journal, Milwaukee.

October.

54 *Causes and Symptoms of Cardiac Insufficiency. J. D. Madison, Milwaukee.
55 Mucous Colitis. W. H. [illegible] ieva.
56 *Placenta Prævia. G. A. [illegible]
57 Treatment of Scabies. I [illegible]

54 and 56.—See abstracts in The Journal, July 1, 1905, page 66.

Western Medical Review, Lincoln, Neb.

October.

58 Incomplete and Some Wrong Diagnoses. G. Haslam, Fremont.
59 Diagnosis of Cancer of the Stomach. H. L. Akin, Omaha.
60 Diagnosis of Gastric Ulcer. H. J. Lehnhoff, Lincoln.
61 Actinomycosis of the Lung. E. F. Ingals, Chicago.

Pennsylvania Medical Journal, Athens.

October.

62 Medical Education. A. Koenig, Pittsburg.
63 *The Mastoid Operation. E. B. Dench, New York.
64 *Mastoiditis—Its Importance in General Practice. S. Mac C. Smith, Philadelphia.

63 and 64. Id.—Oct. 21, 1905, page 1271.

Detroit Medical Journal.

October.

65 Sir William Read, Queen Anne's Quack Oculist. M. Frank, Chicago.
66 The Pharmacopeia of 1900. A. B. Lyons, Detroit.
67 Case of Endocarditis, Multiple Abscess of Spleen, Intestinal Stenosis, and Hemorrhagic Pancreatitis. J. Flintermann, Detroit.
68 Nail in Appendix. H. C. Wyman, Detroit.

Vermont Medical Monthly, Burlington.

October 25.

69 Idiopathic Epilepsy and Its Treatment. D. A. Shirres, Montreal.
70 Tumors Complicating Pregnancy. P. E. McSweeney, Burlington.
71 The Physician as an Educator. M. L. Chandler, Barre.

Medical Fortnightly, St. Louis.

October 25.

72 Postgraduate Study for American Physicians in European Capitals. C. H. Miller, Chicago.
73 Special Symptoms in Phthisis. A. M. Hall, Philadelphia.
74 Relation of Man to Nature (a Study Prompted by Testimonies of the Sepulchres). A. S. Ashmead, New York.

Kansas City Medical Index-Lancet.

October.

75 Case of Blastomycetic Dermatitis. H. M. Lyle, Kansas City.
76 Practical Points in Obstetric Practice. C. L. Hall, Kansas City.
77 Importance of Making a Thorough Examination of the Abdomen in All Acute Bowel Diseases. A. J. Simpson, Chillicothe, Mo.
78 Employees' Hospital Association vs. First Aid by Transportation Employees. B. F. Fortner, Vinita, I. T.

Medical Bulletin, Philadelphia.

October.

79 Curriculum of the Scientific Professional College. J. M. Anders, Philadelphia.
80 Febrile Type of Influenza as Frequently Seen in Young Children. W. C. Hollopeter, Philadelphia.
81 Injuries of the Liver and Their Treatment. M. P. Warmuth, Philadelphia.
82 Danger of Venereal Diseases and Their Prophylaxis. S. L. Gans, Philadelphia.

New Orleans Medical and Surgical Journal.

October.

83 Prostatism Without Prostatic Enlargement. G. F. Lydston, Chicago.
84 Treatment of Pneumonia. P. L. Bellenger, Waterproof, La.
85 Relation of Pleurisy to Tuberculosis. S. von Ruck, Asheville, N. C.
86 Use and Abuse of Glasses by Young People. O. Dowling, Shreveport, La.

Journal of Michigan State Medical Society, Detroit.

October.

87 Administrative Control of Tuberculosis. C. H. Johnson, Grand Rapids.
88 Treatment of Ophthalmia Neonatorum. E. Smith, Detroit.
89 Frequency of Ectopic Pregnancy. J. A. King, Manistee.
90 Thrombosis of Anterior Tibial Artery in Gunshot Wound. L. W. Gardner, Harbor Springs.
91 Dispensing by Physicians. H. B. Garner, Traverse City.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal.

November 4.

1 Oliver Wendell Holmes and the Contagiousness of Puerperal Fever. C. J. Cullingworth.
2 Solitary Non-parasitic Cysts of the Liver. J. Bland-Sutton.
3 Case of Actinomycosis of the Lungs. P. S. Hichens.
4 Epidemic of Influenza Occurring in the Midlothian and Peebles Asylum. J. P. Sturrock.
5 Epidemic Cerebrospinal Meningitis in Northern Nigeria. K. McGahey.
6 *Treatment of Puerperal Eclampsia. A. C. J. Wilson.
7 Plea for Evacuation of the Uterus in Unrelieved Cases of Puerperal Eclampsia. E. Brice.
8 Removal of Iron from the Interior of the Eye by Electromagnet. A. S. Percival.
9 *Preventing Acute Middle-Ear Suppuration from Becoming Chronic. W. Milligan, E. B. Waggett, T. G. Ouston, A. A. Gray, and others.
10 Pathologic Condition Found in a Subject Who Had Been Deaf During Life. A. A. Gray.
11 *Treatment of Laryngeal Tuberculosis. W. J. Horne, S. H. Hebarshon, H. Barwell, C. St. Thomson, and others.
12 Symptoms, Diagnosis and Treatment of Chronic Suppuration in the Sphenoidal Sinus. H. Tilley.
13 Advantages of the Submucous Resection Operation Over All Other Methods for Strengthening Septal Deflections. H. Smurthwaite.
14 Comparative Value of Septal Fissure on Moure's Principle, and Submucous Resection in the Treatment of Septal Deflections. L. H. Pegler.
15 New Form of Forceps for Removal of the Anterior Wall of the Maxillary Antrum in the Radical Operation. W. S. Syme.

6. **Puerperal Eclampsia.**—Wilson's treatment of eclampsia consists in the early administration of chloroform, giving it slowly until the patient is fully under its influence. The patient is kept anesthetized until the labor is terminated, so that she shall be partially under its influence for some time afterward. Wilson has found this treatment to be very successful, and has never seen any recurrence of the convulsions after labor, provided a short time only has elapsed after the first convulsion before the administration of chloroform is commenced.

9. **Prevention of Middle Ear Suppuration.**—Milligan directs attention to the following points: 1. The desirability or otherwise of removal of nasopharyngeal adenoids, enlarged tonsils and various forms of nasal obstruction during the acute phases of septic middle-ear disease. 2. The exact value of routine bacteriologic examination of secretion removed from the tympanic cavity in acute septic inflammation of the middle-ear cleft. 3. The employment or otherwise of inflation of the middle-ear cleft during the early stages of acute otitis media. 4. The value and limitations of palliative treatment as opposed to the early drainage of the mastoid antrum in cases of septic otitis media. The treatment which, in his opinion, conduces to the rapid cure of acute septic otitis media is the following: 1. Early and free incision of the swollen and bulging membrana tympani. 2. Maintenance of free drainage through the incised membrane. 3. Avoidance of inflation during the acute phases of inflammation of the mucosa lining the middle-ear cleft, the more especially if exudation has already taken place, and in the presence of a small perforation of the membrane. 4. Early removal of nasal and nasopharyngeal pathologic entities tending either to impair the physiologic function of the Eustachian tube or to favor reinfection of existing exudation within the middle-ear cleft. 5. Early provision of drainage from the postero-external end of the middle-ear cleft in those cases in which drainage through the membrana tympani has proved insufficient.

11. **Laryngeal Tuberculosis.**—Horne pleads for the conservation of the larynx by rational therapeutic and surgical treatment. Postmortem examinations have shown: 1. That when the larynx is infected with tubercle the disease is already established in the lung. Primary tuberculosis of the larynx is a negligible quantity. 2. That the disease in the larynx progresses *pari passu* with that in the lungs; when the disease in the larynx presents ulceration that in the lungs has advanced to cavitation, and, *vice versa*, when that in the lungs has become arrested, then that in the larynx heals. 3. That when the disease in the lung is confined to the pure miliary form the larynx is not infected. 4. That infection of the larynx takes place by the sputum from the lungs. Therefore, improvement in the larynx following treatment will coincide with the improvement in the lung. Remedies directed toward rendering the lungs aseptic Horne believes to be of considerable value in preventing infection of the larynx. He also believes that sanatorium treatment, both directly and indirectly, is beneficial to laryngeal disease. It improves the pulmonary condition and reduces the frequency of laryngeal complications; it affords rest of voice and promotes healing of laryngeal lesions. Local applications, both palliative and remedial, should form part of the sanatorium treatment. In the more advanced cases, surgical methods may be necessary; an enlarged epiglottis may have to be reduced or removed. Edema of the larynx may be overcome by linear scarifying. Infiltrated and thickened parts may be treated with the galvanocautery or by longitudinal incisions with a sharp knife. Indolent ulcers may be curetted and treated with lactic acid; but lactic acid applied to an unbroken surface is of no avail and only causes distress. The surgical treatment of the disease has its limitations, but within those limitations Horne has seen benefit afforded. He does not, however, favor extreme surgical measures; at their best they are only mechanical means of overcoming physical difficulties and are seldom called for.

The Lancet, London.

November 4.

16 Morgagni to Virchow: An Epoch in the History of Medicine. J. L. Steven.
17 Ocular Tuberculosis in Children. J. H. Parsons.
18 *Subtotal Hysterectomy for Fibroids: After-histories of Sixty Cases. A. H. G. Doran.
19 *X-rays in the Treatment of Cancer. C. Williams.
20 Chronic Hyperplastic Tuberculosis of the Ascending Colon, with General Lymphatic Infection. A. Hall and G. S. Simpson.
21 *After-Treatment in Cases of Suprapubic Cystotomy; New Dressing for the Purpose. G. H. Colt.
22 Case of Intrathoracic Dermoid Cyst. H. B. Shaw and G. E. O. Williams.
23 Impaction of a Gallstone in the Large Intestine; Laparotomy; Recovery. F. V. Milward.
24 Malignant (?) Tumor of the Right Hypochondrium; Removal with Cure. F. W. Forbes-Ross.
25 Cerebrospinal Fever. P. L. Blaber.

18. Subtotal Hysterectomy for Fibroids.—This paper is mainly an analysis of a series of 60 cases of subtotal or supravaginal hysterectomy for fibroids in which the operations were performed by Doran; in every instance the patient had not reached the menopause and a sufficiently long after history was not obtainable. Each patient was traced for at least two years, and most of them were under observation for a much longer period of time. The main object of Doran's research was to determine: 1, How far the patients received lasting benefit from subtotal hysterectomy; 2, how far they are liable to certain discomforts, and 3, how far the preservation of more or less ovarian tissue may save them from those discomforts. There can be no doubt, says Doran, that so far as the removal of the tumor is concerned, the immediate results of this operation, after convalescence, are highly satisfactory, but uncomfortable or even distressing symptoms not rarely follow the operation; hence, the operator can not absolutely guarantee the patient against them. The surgeon must be careful how he urges an operation when the patient has a fibroid of small size which is not growing, which does not press on any important structure, and which is not the cause of hemorrhage. The presence of a small fibroid above the lower segment of the uterus does not justify any surgical procedure which may sterilize the patient, for pregnancy and labor often end normally in such cases. In many instances, however, the removal of the fibroid uterus is demanded, so that certain possible discomforts must be risked. Here the saving of the ovarian tissue has proved a direct benefit, and Doran's statistics confirm the value of that practice. A piece of the uterine mucosa should be saved whenever possible in order to anticipate and to prevent trouble from a premature menopause. In 28 cases of the series both ovaries were removed. In 3 cases the menopause was neither immediate nor complete; in 6 it was complete, with distinct but mild symptoms; in 10 it was complete, with severe symptoms. In 26 cases one ovary was saved. In 8 of these cases the catamenia was regular for a longer or a shorter period after operation; in 5 cases it was irregular, and in 13 cases the menopause was complete and immediate after operation. In 6 cases both ovaries were saved. In 3 cases the catamenia was regular after operation; in 2 cases it was soon suppressed, and in 1 case the menopause was complete and immediate after operation. In 5 of 16 young patients both ovaries were removed. The youngest patient was 30 years of age. She comes under the "severe menopause symptoms" class, but her flushings did not appear until eighteen months after the operation. Doran spared one or both ovaries in every patient under 30 years of age, with good results, and also saved ovarian tissue in several other relatively young women with benefit. He assumes that these patients would not have done so well had he sacrificed both ovaries. In 5 cases in which he was compelled to do so, bad symptoms appeared in 3. The majority of the 60 patients enjoyed good health when last heard from, two years or more after the operation. Doran concludes that the results obtained in these cases decidedly favor the conservative treatment of ovarian tissues, and that they tend to support the theory that it is necessary to spare some endometrium as well as some ovarian tissue.

19. X-Rays in Cancer.—Williams advises exposing cancer to the *x*-ray directly the diagnosis is made whether the case goes to operation or not. After operation, directly the scar is healed or even before that time, if it shows the slightest appearance of being sluggish, it should have immediate treatment whether in the scar or not; this requires constant observation by the medical attendant. A weekly examination is of the utmost importance to the patient. Even healthy wounds will heal the more readily under the stimulation of *x*-rays cautiously applied and in small doses, sufficient protection to the surrounding parts being all that is necessary. The *x*-rays used before operations, for even a few weeks, will tend to arrest further infection, and the glands, if enlarged with simple inflammation or only slightly affected, may disappear, with a certain amount of shrinkage of the original tumor.

21. After-Treatment of Cases of Suprapubic Cystotomy.—Colt says that there is great need of a suitable dressing for application to the patient during the period which elapses between the removal of the skin sutures and tube and the closing the urinary fistula. This time is at least one week: it is generally about three weeks and often longer still. The requirements are: 1, A dressing which shall be applied on the surface of the skin and which shall not enter the fistula at all—which shall not, therefore, tend to prevent it from closing or cause harm in any way; 2, a dressing which shall collect faithfully all the urine flowing by the fistula and allow it to drain away to a receptacle without wetting the patient's skin; 3, a dressing which shall in no way inconvenience the patient either by its bulk or by causing irritation of the skin or by its attachment to parts remote from the wound, as might very reasonably be necessary; 4, a dressing which shall only need occasional inspection and attention, just so much as may also be necessary for proper attention to the edges of the fistula, when, for instance, the granulations become exuberant; 5, a dressing which shall be transparent and so allow the wound to be seen easily, and, last of all, 6, a dressing which shall be easy of application, simple, unlikely to go wrong, and which shall also be cheap, aseptic, and easily cleaned and sterilized. Colt believes that he has met these requirements by the dressing which he has devised. This dressing consists of two parts, one being made of clear glass and the other of sheet rubber. The glass portion is a lightly blown hollow cylinder five-eighths of an inch in diameter and modified in that the top is partially closed and the bottom turned outwards as a flange. From the cylinder juts out a tube at right angles to its axis. The sheet rubber portion is a circular disc of the best, most flexible and elastic, untearable, black sheet rubber, three inches in diameter and one thirty-second of an inch thick. It has a central circular hole five-sixteenths of an inch in diameter and, therefore, can be easily sprung over the glass flange and arranged to lie in continuity with the concave portion of it. This is important for the proper application and stability of the apparatus. The joint so made is absolutely water tight. The two pieces when adjusted together and to a patient lying on his back are situated so that the cylinder is vertical and the rubber sheet horizontal. The total weight is 3 drams. A larger size is provided for use in the early stage, if necessary. The dimensions are a compromise of several, each of which has its own advantages and disadvantages. The rubber solution employed is made by dissolving pure rubber in naphtha. It is better put up in wide tins than in tubes. It is highly inflammable and the solvent quickly evaporates, both good reasons for keeping it securely sealed. The two parts of the dressing are sterilized separately, and the application is made as follows: The skin of the patient is shaved over an area of two inches all round the external opening of the fistula. It is then cleared of grease with a swab soaked in ether. The tin of rubber solution is opened and the surgeon sterilizes his hands. He dries them and both parts of the dressing thoroughly with a sterilized towel or with wool, fits the two parts of the dressing together correctly, and adapts the long rubber drainage tube to the short connecting arm. A small swab of absorbent wool is kept on the orifice of the fistula so that the skin around may be dried and kept perfectly dry until the dressing is applied. This swab should be renewed quickly if it becomes soaked, and it should be small enough to allow the rubber solution to be applied close up to the opening. The surgeon dips his finger in the rubber solution and thoroughly coats the patient's skin with a thin even layer right up to the opening and round it for a distance of two inches, rubbing the solution well in. Care should be taken not to continue the rubbing if the solution begins to peel off. The under surface of the rubber disc is then covered all over with solution, but not within one-eighth of an inch of the glass flange or the spring of the rubber is weakened and thereby also the security of the water-tight joint. The rubber flange bends back of its own accord into three most convenient folds like a three-cornered hat. Then the surgeon waits until the two surfaces are nearly dry, as tested with the finger. That on the skin takes longer and it is immaterial how dry the surface of the rubber is. To refuse to wait is to court failure. As soon as the correct moment arrives the central swab is removed for good and the glass flange is placed around the opening of the fistula, and before any urine can escape the rubber disc is pressed evenly down all round. In making the adjustment it should be remembered that the drainage tube should either point toward the pubes with the rubber tube arranged for the side on which he lies, or it should be turned one-eighth of a circle or so to that side. There should be no attempt at rectification when once the application has been made. The excess of solution is rubbed off the skin round the disc with the finger. It comes off readily enough in little pellets while it is still damp with the solvent. The rubber tube is now bent round in a curve and fixed to the skin by a broad band midway between the anterior superior iliac spine and the orifice of the fistula, and in such a manner that the glass is kept in correct position partly by the elasticity of the drainage tube itself. The top of the glass is lightly covered with a piece of gauze or wool. or the hole is lightly filled, to prevent sepsis. The drainage tube is threaded through the cradle if one is being used and allowed to hang into the pail. It should be as short as can be contrived. The patient should be instructed to raise up any bedclothes he may have on the dressing when the nurse has to change them or attend to him, otherwise they will catch in it and it will be swept off. He should also be told not to strain to pass urine. When carefully applied the dressing is usually efficient for at least four days. If urine leaks under the rubber the dressing should be removed by peeling it off from the edge, another rubber substituted, and the whole reapplied. It is generally impossible to readjust it without reapplying it as a whole, though often a strip of plaster applied over the rubber will prevent leakage for one day longer.

The Practitioner, London.

October.

26 *Hygiene of the Mother Before the Birth of Her Child. J. W. Ballantyne.
27 *Points Regarding the Mother's Milk in the Early Weeks of Infant Life. M. Handfield-Jones.
28 *Artificial Feeding of Infants. E. Cautley.
29 *Use and Abuse of Condensed Milk and Patent Foods in Infant Feeding. G. F. Still.
30 *Municipal Feeding of Infants. G. F. McCleary.
31 *Consultations for Infants in France. L. Robinson.
32 *Infantile Mortality. A. Newsholme.
33 *Infantile Diarrhea. G. A. Sutherland.
34 Convulsions in Early Infancy. J. Thomson.
35 *Vaccination, Its Treatment, and Conditions of the Infant, which Preclude Its Being Done. M. Greenwood.
36 *Infantile Scurvy. W. S. Colman.
37 Infantile Atrophy. J. Burnet.
38 Disorders Associated with Primary Dentition. L. Guthrie.
39 Diseases of the Eye in Infants. H. W. Lyle.
40 Diseases of the Skin of the Young Child. T. C. Fox.
41 Pharmacopeia for Infants. O. F. F. Grünbaum.

26. **Hygiene of Mother Before Parturition.**—Ballantyne discusses the influence on the fetus of various conditions affecting the mother, dividing the antenatal life of the child into the germinal, the embryonic and the fetal. He advises examining the placenta chemically and histologically in every case of labor, and comparing the results obtained with clinical data in order to determine, if possible, the microscopic appearances characteristic of a placenta capable of transmitting power and those of one in which the transference of materials, nutritive, medicinal or poisonous, was difficult or impossible. It should be determined how pathologic changes in the deciduæ, amnion and chorion are related to the previous health of the mother and the present condition of the embryo. Again, a strict comparison ought to be instituted between the health of the mother and the state of her offspring in succeeding pregnancies. The maternal influence on the fetus is a complex matter, and until such time as definite information about the feto-maternal interchanges is forthcoming, the treatment of these conditions must be empirical. The hygiene of the pregnant woman is discussed in detail.

27. **Mother's Milk.**—Jones divides causes of non-lactation into four groups: 1, Women who can but refuse to nurse their infants; 2, women who have serious difficulty in nursing because of some anatomic defect; 3, women who have an abundant supply of milk during the first three or four weeks and then run dry; 4, women the chemical composition of whose milk does not agree with the digestive organs of the child. In some instances the milk is of low nutritive quality and deficient in fats; the infant's digestive organs may be at fault; the mother may be extremely nervous and excitable, or she may be ingesting something which produces a disturbance of the child's digestive system. If the infant can not be nursed by its own mother, Jones advises procuring the services of a wet nurse. Failing human milk, the physician must choose between modified milk, either of the cow or of some other animal, and artificial foods.

28. **Artificial Feeding of Infants.**—Nothing new is presented in this article. Cautley emphasizes the importance of weighing the child regularly for the purpose of regulating the diet so that there is a constant gain in weight. The time of feeding, the preparation of the food and the kind of food to be used are also considered. Cautley says that by the intelligent use of properly prepared milk and the plain cereal decoctions, it is quite easy to bring up infants successfully without having recourse to laboratory mixtures or to any of the death-dealing condensed milks and proprietary foods, although there are cases of disease in which they are valuable, when used with discrimination by those who thoroughly understand the art of infant feeding.

29. **Use and Abuse of Condensed Milk and Patent Foods.**—Still calls attention to the fact that the suitability of a particular food for prolonged use is not proved by the fact that it is taken well and produces no immediate ill-effects. The evil results of unsuitable food may not appear until the food has been continued several weeks or months. An objection to all prepared foods is their deficiency in fats. As for condensed milk and the other substitutes for fresh cow's milk, Still says that no manner of simple dilution of water can make the resulting mixture a suitable food for the prolonged use of infants; nevertheless, these foods may be of value for short periods under special conditions. The starch-containing patent foods are useful sometimes for infants over nine months of age, when starch is gradually to be introduced into the diet, but they must be given cautiously and with due regard to the digestive apparatus of the infant. The more the medical man knows of the many simple methods of adapting fresh milk to the needs of the infant, the less use he will find for condensed milk or patent foods.

30. **Municipal Feeding of Infants.**—McCleary outlines the methods pursued by various municipalities in England, especially in the borough of Battersea. These methods are based on the consultations in vogue in France.

31. **Consultations for Infants.**—Robinson describes these institutions which have done so much to reduce the infant mortality from gastrointestinal diseases in France. There are seven consultations for infants in Paris, and two in the immediate suburbs, exclusive of those connected with maternities. Each consultation must contain an apparatus for washing, cleaning and drying the empty bottles returned daily by the mothers. The milk is sterilized by the female caretaker, assisted by one helper; it is only delivered to infants according to the physician's prescription. The hygiene and feeding of the infant out-patients is under the supervision of the physician in charge of the consultation. Thanks to these institutions, more mothers feed their infants at the breast, the general infantile mortality is lowered and infantile diarrhea disappears. Stronger healthy children who resist every ailment better are seen because their digestive tube has not been deteriorated.

32. **Infantile Mortality.**—Newsholme's paper is a statistical study from the public health standpoint of facts derived from

the annual reports of the registrar general of births, deaths and marriages in England and Wales.

33. **Infantile Diarrhea.**—The treatment of the early stage of infantile diarrhea advised by Sutherland consists in the thorough cleansing of the intestinal tract as quickly as possible. He prefers castor oil administered in small repeated doses. It is given as follows:

℞.	Olei ricini	m. x		6
	Tinct. rhei			
	Glycerini, āā	m. v		3
	Tragacanthæ	gr. 1/2		03
	Aq. menthæ piperitæ ad	℥i	4	

This may be given in teaspoonful doses every four hours for the first thirty-six hours, and then less frequently. It is usually well tolerated by infants, but if there is much gastric disturbance and vomiting, it may be necessary to wash out the stomach first. Instead of the castor oil one may use small doses of mercury. Gray powder, in one-quarter grain doses, or calomel in one-sixth grain doses, may be given every two hours, until six doses have been taken. When the acute symptoms are subsiding, and the motions are becoming less frequent, this sedative mixture may be given:

℞.	Sodii sulphocarbolatis			
	Bismuthi subnitratis, āā	gr. ii		1
	Tragacanthæ	gr. 1/2		03
	Glycerini	m. x		6
	Aq. dest. ad	℥i	4	

One teaspoonful of this mixture is given every six hours. Associated symptoms are treated as they arise.

34. **Convulsions in Early Infancy.**—Thomson gives a general *review of this subject.*

35. **Vaccination.**—Greenwood says that in considering the conditions that contraindicate vaccination and render postponement advisable, the presence of smallpox locally, in a sporadic or epidemic form, is of the utmost importance. Where postponement might be desirable and even imperative in the absence of smallpox, when this disease is epidemic or has broken out in the house where the child resides, vaccination ought nearly always to be performed. When smallpox is not present and there is no immediate fear of the infection, the child should be vaccinated when its health is at its best. If the child has been exposed recently to an infectious disease, vaccination should be postponed until a reasonable time has elapsed from the convalescence of the last patient. When a child suffers from any form of wasting disease it is better not to urge the operation unduly. Care should be taken that the condition of the child's skin is healthy. With regard to postponement in general, it must not be forgotten that it is an evil; anything that can be done to avoid the necessity of postponement is, therefore, important. One method is to offer vaccination as soon after the first month as possible. The operation must be carefully performed under aseptic precautions.

36. **Infantile Scurvy.**—Colman details the clinical history of this affection, laying particular stress on the morbid anatomy and frequency of occurrence of the bone lesions.

Intercolonial Medical Journal of Australasia, Melbourne.

September.

42 State Medicine and Medical Ethics. G. A. Syme.
43 Abdominal Manifestations of Syphilis. F. D. Bird.
44 Etiology and Treatment of Hernia in Adults. R. H. Russell.
45 *Simplified Operation for Hernia in Children. E. K. *Herring.*

45. **Simplified Operation for Hernia in Children.**—Herring describes his method, a simple and rapid one, as follows: "Cut down on and *into* the sac in the usual position over the rings, and having dealt with the contents, pull the sac down, i. e., out *from* the abdomen, sufficiently to insure the subsequent retraction. Extend the incision in the sac right up to the ring margin, and turn this upper portion of the sac inside out through the incision, exposing the peritoneal surface. Then, with a knife or pair of sharpened scissors, cut the peritoneum (only) transversely right across. The proximal cut edge will retract within the abdomen, so catch it here and there as you cut with catch forceps. Thus the sac is severed from side to side, and the proximal opening is held by forceps. Arrange these forceps to draw the edge into a line, and whip it together by a catgut suture. Take off the forceps and the sutured opening will retract within the abdomen. Close the wound with a subcuticular or other stitch and seal it." The operation is done in a few minutes, instead of the ordinary three-quarters of an hour. Nothing further is absolutely necessary. When there is a large lax abdominal ring, or when the little patient has a cough, it may be advisable to put one or two stitches through the pillars as a temporary support. The contents of the inguinal canal are practically not disturbed. The sac is left in the canal to shrivel up; the cord has not been touched nor pinched; the testicle has not been dragged out and exposed; no vessels have been cut, so no ligatures are left behind, and the chances of sepsis are very slight.

Semaine Médicale, Paris.

46 (XXV, No. 44.) *De l'influence de l'alcoolisme sur la glande thyroide. F. De Quervain.
47 Report of Fifteenth Italian Congress of Internal Medicine, Genoa, October 24-29.

46. **Influence of Alcohol on Thyroid Gland.**—De Quervain has previously published a study of acute, non-suppurative thyroiditis and of the participation of the thyroid gland in acute infections and intoxications. In this article he studies the influence of alcoholic intoxication. The thyroid gland reacts in about the same way to microbian intoxications as it does to chemical poisons. The colloid substance becomes more or less granulous and filled with vacuoles, while it diminishes in amount. It ceases to stain with eosin and takes hematoxylin, while there is intense epithelial desquamation and hyperemia. In examining the cadavers of pneumonia subjects he noticed that those with a history of alcohol addiction showed these changes to a marked degree, while they were absent in the non-alcoholic cases. The thyroid must be added to the list of glandular organs susceptible to injury from alcohol. It might be interesting to study the indications of lacking or defective thyroid functioning in cases of chronic alcoholism. The knowledge of the changes induced in the thyroid gland by alcohol throws light on the development of spontaneous myxedema or "hypothyroidism" in the children of alcoholics. Such modifications as those described, if they occur in the thyroid of the fetus, might well explain its defective functioning later.

Beiträge zur klin. Chirurgie, Tübingen.

Last indexed page 1368.

48 (XLV, No. 3.) *Erfahrungen bei der operativen Behandlung des kompletten inneren Darmverschlusses (ileus). O. Simon.
49 Ueber die isolierte Ruptur der Symphysis ossium pubis. W. Cohn.
50 Luxatio femoris centralis. W. Simon.
51 Zur Entstehung von Pankreas Cysten durch Trauma. Zimmermann.
52 Zur Anatomie und Klinik der Fussgelenks Tuberkulose (of ankle). R. Stich.
53 *Zur Dauerheilung des Brustkrebses (mammary cancer). H. Schröder.
54 Ueber Bruchsack Divertikel (in hernial sac). E. Hagenbach.
55 Ueber umschriebene Knochenverdichtungen im Bereich der Substantia spongiosa im Röntgenbilde (localized thickening of bone). A Stieda.
56 Ueber den Albers'schen Beckenfleck im Röntgenbilde ("spot in pelvis"). *Id.*
57 Struma intratrachealis. T. *Grünewald.*
58 *Die Darstellung der Trachea im Röntgenbild, besonders bei Struma. O. Füster.
59 (XLVI. No. 1.) *Erfahrungen über Spinal-Analgesie. C. Pfeiffer.
60 Zur operativen Therapie der seitlichen Kniegelenks-Verkrümmungen (lateral curvature of knee). A. Wittek.
61 Ueber Skoliose bei Halsrippen (cervical ribs). F. Meyerowitz.
62 Ueber Divertikel-Bildung bei *Appendicitis.* M. v. Brunn.
63 Zur Kasuistik der Pfählungsverletzungen des Beckens (impalement injuries of pelvis). K. Flick.
64 Erfahrungen in der Appendicitis-Frage am städtischen Krankenhause zu Nürnberg (experiences at Nuremberg City Hospital). W. Hagen.
65 Die Heilungs-Resultate der Unterschenkelbrüche (fractures of leg). F. Sauer.
66 Totale Querriss des Pankreas durch Naht geheilt (transverse laceration cured by suture). C. Garré.

48. **Operative Treatment of Complete Occlusion of the Intestine.**—Simon reviews the cases treated at Czerny's clinic between 1890 and 1903, separating them into eight classes according to the cause, etc., of the occlusion. He proclaims as the lessons learned from this extensive experience that all cases of internal occlusion in which strangulation is probable, and also of volvulus and invagination, should be treated operatively, but that in case of gangrene, the intestine should merely be drawn out and opened instead of attempting more

radical measures. In complete occlusion, especially with preceding chronic obstipation, internal medication should be given a trial, but the response must be obtained in the first or, at the most, in the second twenty-four hours, not to allow the favorable moment for intervention to slip past. Every operation for complete intestinal occlusion should be preceded by lavage of the stomach. In case of much meteorism, the intestine must be emptied at the time of the operation. In case of existing peritonitis it is always wise, Simon states, to leave a fistula into the intestine, notwithstanding the restoration of the permeability of the bowels.

53. **Permanent Cures of Mammary Cancer.**—Schröder's article is devoted to the experiences with mammary cancer at Müller's clinic at Rostock, 1875-1901. The total number of patients treated by a complete operation was 347. Out of this number 45 are still alive and well, one after twenty-seven and a half years, and 14 after from ten to fifteen years. In 15 of the 182 patients who succumbed to metastases there was no local recurrence of the neoplasm. In a majority of cases in which a second operation was required the recurrence was in the cicatricial tissue. In 5 cases the recurrence appeared between the fourth and fifth year after the operation; in 4 between the fifth and sixth year, and in 6 between the sixth and eighth; in one after eleven and in another after thirteen years. The fact that in 51 out of 83 cases of recurrence the latter occurred in cicatricial tissue, suggests that the operation spared too much skin. Cancer germs must have been left in the skin, and this should have been excised more freely. Some of the patients had showed the lump to their physician and he had advised waiting "to see if it got any larger." There will always be a small proportion of cases in which the growth is still apparently in its incipiency, but yet the patients succumb to speedy metastasis in lungs or pleura. The lymph vessels in the mammary gland communicate with the mediastinal glands, which explains this group of cases. Fortunately, this communication is less extensive than that with the axillary glands.

58. **Trachea in Roentgen Picture.**—Füster proclaims that the trachea can be inspected with great precision in the Roentgen picture even in case of large goiters. It enables the part of the goiter encroaching on the trachea to be determined, and gives a number of other hints valuable for surgical intervention.

59. **Spinal Analgesia.**—Pfeiffer's communication issues from von Hacker's clinic at Graz, and describes 235 cases of operations performed under spinal analgesia. No by-effects were observed in 75 per cent. of the cases and in the others, with a single exception, they were slight and brief. In only 10 cases was there absolutely no analgesia after the injection. General anesthesia after a preliminary spinal analgesia requires much less of the anesthetic and seems much less serious than under. other conditions.

Centralblatt f. d. Grenzgebiete d. Med. u. Chir., Jena.

Last indexed page 429.

67 (VIII, No. 10.) *Der subphrenische Abscess. F. Perutz. Critical review of literature, 1894-1904. (Commenced in No. 4.)
68 (No. 13.) *Ueber den klinischen Wert der Kryoskopie von Blut und Harn (value of cryoscopy). H. Ziesche. Critical review. (Commenced in No. 5.)
69 (No. 16.) *Das Diverticulum ilei. A. Dreifuss. Critical review of the literature. (Commenced in No. 11.)
70 *Hyperemesis gravidarum. R. Pollak. Critical review of the literature, 1895-1904. (Commenced in No. 9.)
71 (No. 17.) *Die akute Magenerweiterung (dilatation of stomach). Neck. Critical review of the literature. (Commenced in No. 14.)
72 Zur Kenntnis der Meningocele spuria. Bauerthal. One case. Young man.

67. **Subphrenic Abscess.**—Perutz reviews 158 articles in his text and adds several more to the list in correcting the proof. He classifies the cases as they originate: In the stomach, 67 cases; duodenum, 3; appendix, 55; liver and biliary passages, 17; echinococcus cyst, 5; intestine, 7; pancreas, 4; spleen, 4; perinephritic structures, 7; ribs, 1; thorax, 8; female genitals, 6; of traumatic origin, 8; metastatic, 5, and unknown and various causes, 11—a total of 208 cases, with 6 added in the proof, bringing the total number to 214. Ulcerative processes in the stomach and appendicitis are the principal causes of subphrenic abscess formation. The symptoms may be acute or more insidiously chronic. The patients may grow thin and appear very ill without any local symptoms to attract attention to the site of the lesion. As a rule, however, some of the organs in the vicinity are pushed up when fluid accumulates on the lower aspect of the diaphragm. The affected side protrudes more than the other, and there may be fever and extreme difficulty in breathing. The affected side may lag in making the respiratory excursions. The area of dullness over the tumor corresponds to the convex outline of the diaphragm, and the limits of the lungs above can be differentiated in some cases, but not in all, as the excursions of the pleura are generally hindered by extension of the inflammation or by exudation. If the abscess contains gas, then the picture is that described by von Leyden as subphrenic pyopneumothorax. The remarkably extensive lymphatic communication between the pleura and the subdiaphragmatic space renders the participation of the pleura in the inflammation almost inevitable. It is favored by the movements of the diaphragm. The pleural exudate is generally less virulent than the contents of the abscess. Grüneisen found the pleura involved in 40 out of 60 cases of subphrenic abscess. In 3 instances the subphrenic abscess was the result of a bullet wound. In another it developed after a strain from lifting a weight, and in some others after contusions. In these cases an extravasation had probably become infected. The abscess was of typhoid origin in a few individuals and it followed furunculosis in others. The possibility of a subphrenic abscess should be borne in mind when confronted with furuncles, especially when on the face. In 2 cases the abscess followed tuberculous peritonitis, and in a third the pus contained pneumococci. In a few other puzzling cases pneumonia or pleuritis was diagnosed at first, but the atypical course, the high fever, and the general ill feeling, supplemented by the puncture findings, cleared up the diagnosis. In one case in this group the patient succumbed to thrombophlebitis of the splenic vein. The others recovered, one man requiring counteropenings and several months in bed before he was finally cured.

68. **Clinical Value of Cryoscopy.**—Ziesche concludes his long analysis of what has been published on the study of the freezing point of blood and urine with the remark that the extravagant claims made for this new diagnostic measure at first have not been substantiated, but that it is valuable in supplementing other diagnostic measures, and states that it will well repay further study. Defective technic has been responsible for some of the conflicting reports which have been published. He reviews the works on osmosis and on the determination of the freezing point which preceded Koranyi's application of cryoscopy to the clinic. Very little has been done in pediatrics with cryoscopy. It seems to have been demonstrated that in liver affections the freezing point of the blood is higher, while in diabetes it is lower. This may be due to irritation of the kidney or to weakness of the heart, or to accumulation of acetone in the blood. Koranyi regards the acetone as similarly responsible in case of inanition. In diabetes insipidus the freezing point of the urine is very high; Strauss has observed a patient with an output of 6 liters and a freezing point of 0.11 C. The smallest figure yet recorded in man for the freezing point of the blood was found by Dienst in a case of eclampsia, namely, 0.40 C.

69. **Meckel's Diverticulum.**—Dreifuss has sifted 398 articles and discusses the subject from every point of view as presented in the literature. He summarizes his conclusions in the statements that an open diverticulum should receive the most radical treatment at the earliest possible moment. In secondary prolapse of the intestines Barth's technic is preferable, as it provides for all eventualities. Enterostomata should be extirpated, and the diverticulum in a hernial sac should be removed as completely as possible, as under all circumstances. Inflammations in the diverticulum and ileus—whatever their origin—must be regarded as surgical affections and preferably treated according to Hilgenreiner's technic. An operation was performed in 111 of 192 cases of occlusion of the intestines by a Meckel diverticulum. In 32 cases the patients were saved, but in the other 79 the fatal termination could not be arrested. Hilgenreiner thinks that these figures

will grow better when it is generally accepted that every case of ileus should be regarded from the first as a surgical affection—not that the surgeon has to operate in every case, but that expectant treatment should be with the knife in hand.

70. **Hyperemesis Gravidarum.**—Pollak recapitulates the views and methods of various authors as set forth in 242 articles published between 1895 and 1904. The prognosis is given as more favorable in these later works. Many writers preach against the use of medicines, claiming that when this method of treatment is successful it is merely from suggestion. Olshausen gives 4 gm. of potassium bromid in rectal enemata during the day, keeping the patient in bed. Kehrer gives 1 gm. of sodium bromid three times a day and 15 drops of nux vomica once, with a solution of cocain. Antonschwitsch gives salts in large doses, ascribing the trouble to a deficiency in salts. Neustube gives 10 drops of a 50 per cent. solution of cocain, repeating the dose in an hour if the desired result is not attained, and once again, with half the dose, three times the next day. He inserts a tampon with a 2 per cent. cocain salve in the vagina at the same time. Pozzi has also reported success from subcutaneous injection of cocain, Bauer with cocain internally and morphin subcutaneously. Opium is recommended only by Priest and Tuszkai in the literature of the last ten years. The latter gives it in large doses. Oelschlager reports that he has never had a failure in fifty years' experience with sodium bicarbonate combined with tincture of strychnin. Dirmoser gives 0.05 gm. calomel every hour until the bowels move and then morphin. Dow prescribes a teaspoonful of a 1 per cent. solution of carbolic acid by the mouth after failure of other measures. Some writers reject medication, as its almost certain failure destroys the patient's confidence in her physician, and time is wasted. Geoffroy noted that the vomiting ceased after prolonged palpation and consequently proposes massage as a remedy. He ascribes the trouble to reflex contraction of the pylorus, duodenum and junction of ileum and colon, and consequently advises massaging these parts. His suggestion does not seem to have been adopted by others. Several writers have reported cessation of the vomiting after correction of some displacement of the genitals. A number of authors recommend treatment as for hysteria, especially with authoritative suggestion. Frank wonders that more use is not made of hypnosis by gynecologists. A number of instances have been recorded in which hyperemesis gravidarum was noted in the previous history of patients with polyneuritis. Eulenberg has observed 3 such cases.

71. **Acute Dilatation of the Stomach.**—Neck has collected 44 cases with postmortem findings published in the literature. The stomach generally reached to the pubic bone and in some instances the floor of the pelvis. The signs of the distension of the organ came on suddenly usually, without any previous history of gastric disturbances. In 28 of the cases the dilatation occurred after an operation under chloroform. In 17 the operation had been on the abdomen, with a possibility that the stomach might have been pulled or injured in some way, directly or indirectly, but in the other cases the operation had been resection of the knee or elbow, amputation at the hip joint, or operations on the foot or knee. It is more than probable that the stomach was injuriously affected by the chloroform, entailing paralysis and stretching of the walls. In a case recently observed a man took chloroform several times without harm, but sudden dilatation of the stomach followed two hours after a single dose of 0.1 gm. of veronal. Neck cites this instance to illustrate the idiosyncrasy of the stomach against some drug which is probably the cause of the sudden acute dilatation of the stomach in certain cases. In the other cases inordinate or inappropriate eating or drinking had preceded the dilatation—four bottles of champagne in one case, two bottles of lemonade in another. Acute dilatation has also been observed after contusions of the abdomen or other trauma. Vomiting generally occurs, but not invariably, and it may cease abruptly. There may be considerable pain at various points. Certain symptoms suggest the action of toxins. In all but 2 of the cases the temperature remained normal throughout. Out of the total of 64 cases which he has collected only 17 terminated in recovery. Differentiation from ileus and peritonitis is very difficult, as a rule. In treatment, the use of the stomach pump three times a day best answers the indications; it must be continued until the stomach has returned to normal size and the signs of functional disturbance have subsided. It is a good plan, Neck says, to evacuate the stomach with the patient's pelvis raised, as this facilitates the emptying of the organ. Interference with the bowel functions by the distended stomach can be counteracted by having the patient lie face downward or change to the knee-elbow position for fifteen minutes every two hours, Kelling's patient obtained relief by lying on the left side with the legs drawn up. Borchardt had an unfavorable experience with the prone position, and thinks that it is liable to interfere still further with the motions of the diaphragm, and possibly to arrest the heart action. If the prone position is ordered, the stomach must be systematically evacuated from time to time. Surgical intervention is the last resort, but a gastroenterostomy might be tried. It has been done in a few instances, but too late to benefit the patient. The cause of the acute dilatation may be manifold, but experience has shown that in addition to and in consequence of the dilatation there may be compression and kinking of the duodenum which in turn increase the dilatation. The compression of the duodenum generally occurs just below the superior mesenteric artery. Sometimes the duodenum is kinked by traction or torsion from the enlarged stomach. The dilatation of the stomach is the primary lesion.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed page 1284.

73 (LXXXIV, Nos. 5-6.) Balance of Acids and Alkalies in Animal Fluids.—[illegible] nz von Säuren und Alkalien in [illegible] F. Moritz. (Titrimetric Analy[illegible] and Urine.)
74 *Pathologie der Arteria basilaris. Saathoff (Kiel).
75 *Klinische Beobachtungen über Blutdruck, pulsatorische Druckzunahme (Pulsdruck), sowie ihre Beziehungen zur Puls-Kurve. B. Fellner.
76 *Embolie der Lungen-Arterie. C. Hart.
77 Ein Spirochæten-Befund bei schwerer Anämie und carcinomatöser Lymphangitis. O. Moritz. One case.
78 Zur Kenntnis der Influenza und Influenza-Bazillen. G. Jochmann.
79 *Zur Symptomatologie der Milz- und Nieren-Infarkte (of spleen and kidney). G. Riebold.
80 *Zur Pathologie des Blutdrucks (blood pressure). Külbs (Kiel).
81 Action of Fluorescent Substances on Fungi.—Wirkung der fluorescierenden Stoffe auf Spalt- und Fadenpilze. A. Jodlbauer and H. v. Tappeiner.
82 *Is Transfused Homogeneous Blood Preserved?—Bleibt artgleiches Blut bei der Transfusion erhalten? W. Schultz.
83 Ueber Isohämolysine und Hemagglutinine beim Kaninchen (in rabbit). Id.
84 Atypische Leukämie mit Osteosklerose. C. Nauwerck and P. Moritz. One case.
85 *Influence of Changes in Circulation on Composition of Urine. Einfluss von Kreislaufsänderungen auf die Urinzusammensetzung. A. Loeb.
86 *Laparotomie bei Peritoneal-Tuberkulose. Göschel.

74. **Pathologic Conditions of the Basilar Artery.**—Saathof's attention was called to the mechanism of aneurism of the basilar artery by the case of a man carrying a hod of bricks on a scaffold, who stepped on the loose end of a plank and fell through to his thigh. This kind of trauma caused an impact of the skull on the neck and resulted in the rupture of the sound basilar artery. In 3 other cases thrombosis in the basilar artery was evidently a syphilitic process. Saathof is convinced that the peculiar location of the basilar artery exposes it to great injury from an accident such as the one just described, the impact of the weight above forcing the artery against the rough bone below. Examination of 100 skulls showed that the bed of the artery was smooth in only 43, while all the others exhibited more or less numerous jagged projections. Injury of this kind might pass unperceived, but would leave a place of lesser resistance on which a syphilitic process would locate by preference. He has found in the literature reports of 10 cases in which the basilar artery was the sole seat of syphilitic gummatous arteritis. In another group, which he also illustrates with examples, the syphilitic process had involved the neighboring arteries, while a third group includes those in which the adjacent membranes as well as the arteries were involved. This [illegible] chain of trauma, thrombosis, syphilis and aneurism [illegible] also the hitherto puzzling fact that the region of the [illegible] seems to be a favorite site for syphilitic lesions.

liarly sheltered position of this part always rendered its predilection for syphilitic lesions inexplicable. But if we ascribe causal importance *to trauma affecting the basilar artery*, then the propagation of the process to the region of the chiasma is not improbable. In a large number of the cases on record *trauma is expressly stated.*

75. Study of Blood Pressure and Pulse Curve.—Fellner's work issues from Nothnagel's clinic. The conclusions state that the measurement of the blood pressure, according to the Masing-Sahli-Strasburger technic, denotes great progress in this line, especially in the determination of the diastolic with the systolic pressure, and also the extent of the pulsatory increase in pressure (pulse pressure). This enables us to determine the condition of the circulation at any time, the degree of compensation, the diagnosis of various disturbances in the circulation and allows exact control of many therapeutic measures. It gives extremely characteristic and important diagnostic findings in certain affections, especially in case of aortic stenosis or insufficiency, and of nephritis. The pulse pressure is, further, the only means of determining accurately the degree in which the pulse is gaining or losing. This can not be determined by the ordinary sphygmogram, but can be learned with precision from Sahli's "absolute sphygmogram." The viscosity of the blood has considerable influence on the origin and shape of the pulse curve. The Riva-Rocci sphygmomanometer is more reliable than any other, Gaertner's tonometer giving only approximate findings. By the Strasburger technic, the Riva-Rocci cuff is slipped on the forearm as usual and connected with the manometer. The maximal pressure is estimated by the height of the mercury column when the pulse vanishes peripherally from the point of compression. The diastolic (minimal) pressure is estimated at the moment when the previous maximal radial pulse commences to grow smaller with increasing compression. Sahli's technic consists in applying Jaquet's sphygmograph, instead of the fingers, to the radial artery, and then compressing the brachial with the cuff. As the sphygmogram record grows smaller, this corresponds to the diastolic pressure. When the systolic pressure is reached in the cuff, the index marks a horizontal line *without elevations. The findings by both these technics are practically identical.* The Strasburger shows the minimal pressure = heart diastolic pressure; maximal pressure = heart-systolic pressure. The pulse pressure is the difference between the maximal and the minimal pressure. The blood pressure quotient = the quotient obtained by dividing the pulse pressure by the maximal pressure. Sahli's work on methods of clinical investigation was reviewed on page 1673. Some of his communications have been summarized in The Journal, for example on page 1819 of volume xliv, and page 2002 of volume xliii. Fellner does not regard the blood pressure quotient as a reliable index of conditions, as various factors combine to influence it; but Sahli's absolute sphygmogram, he thinks, can be relied on. The ordinary sphygmogram represents a curve with an unknown base. We have no means of knowing with the ordinary sphygmogram the base line representing the distance from zero. A pulse with a minimum of 60 mm. and a maximum of 90 mm. would show exactly the same findings as another with a minimum of 160 mm. and a maximum of 190 mm. Sahli draws on "millimeter paper" the time of one pulse phase (0.2", according to Jaquet's sphygmograph 10 mm.). The height of the minimal pressure is then marked on the zero line (the minimal pressure is determined by the Riva-Rocci, for instance 1 mm. mercury ≙ 1 mm. on the vertical line), corresponding to the height of the pulse curve, that is, the maximal pressure is marked at the point to correspond to the time distance. In an absolute sphygmogram thus drawn, *the height corresponds in fact to the pulse pressure.* The future of the sphygmogram is for the exact study of rhythm, frequency and regularity of the pulse and its disturbances. In solving other questions, however, the study of the venous pulse and of the cardiogram should supplement sphygmography and sphygmomanometry, with also plethysmographic findings and analysis of the blood. The entire arsenal of hemodynamics may be called on before the problem is solved in certain cases. In conclusion he cites von Frey *to the effect that if the study of the pulse is to be more than a mere pastime, it should be applied to several parts at once, investigating the pulse in various regions, if possible, with different apparatus and simultaneously.*

76. Embolism of Pulmonary Artery.—Hart describes 2 cases in which the main trunk of the pulmonary artery had evidently been completely obstructed by an embolus. The far advanced organization testified to the long existence of the lesion, but weeks elapsed after the embolism before the patients succumbed.

79. Infarcts in Spleen and Kidneys.—Riebold's article is based on 2 cases. The patients were young women, and the first sign of trouble was a sudden excruciating pain in the region of the organ affected, strictly localized, not radiating, persisting for some time unmodified without essential remissions, but gradually subsiding in the course of a few days. An infarct in the spleen or kidney *may occur with severe symptoms suggesting ileus or peritonitis*, probably of reflex origin (collapse, vomiting, retention of feces and urine). These symptoms may be accompanied by slight temperature and possibly also by moderate leucocytosis. Head's zones of hyperalgesia on the skin are sometimes noted, and their location on the right or left side may sometimes have diagnostic importance to determine whether the left kidney or the spleen is affected. Enlargement of the spleen and friction in the splenic region point to this organ. In case of infarct in the kidney, oliguria is sometimes observed or anuria, with hematuria and albuminuria, and yet it is possible for the urine to be entirely normal even in case of very extensive and bilateral kidney infarcts. *In some cases the infarcts occur with no symptoms to suggest their presence.* In one of the cases described an embolus was found in the basilar artery, and was the cause of the acute bulbar paralysis that had been observed, but a small isolated hemorrhage in the thalamus optici had failed to cause facial paralysis.

80. Pathology of the Blood Pressure.—Külbs describes a dozen cases in which he observed a temporary increase in the blood pressure in persons addicted to tobacco or alcohol. It was accompanied by subjective sensations, with a very tense, regular pulse and acute dilatation of the heart. The patients complained of a pain or sense of oppression, as if a great weight were lying on their chest. Conditions were restored approximately to normal by rest in bed, baths and restriction of intake of fluids.

82. Is Homogeneous Blood Retained on Transfusion?—Schultz relates experiments which he thinks demonstrate that carefuly defibrinated rabbit blood transfused into other rabbits is preserved for the receiving organism for the most part.

85. Behavior of Electrolytes in Urine During Changes in Circulation of Blood Through the Kidneys.—Loeb's conclusions from the extensive clinical research reported are *to the effect that in healthy individuals the elimination of urine increases when they change from the reclining to the upright position, and the relative elimination of salt increases also.* In individuals with disturbances in the circulation the changes are just the reverse. Those with orthostatic albuminuria show *modifications in the urine which indicate that the circulation through the kidneys is not so good when standing. Nitroglycerin has an unfavorable action on the circulation through the kidneys in case of nephritis. In the changes indicated in the urine by upright position or by nitroglycerin, salt behaves differently from the other solid constituents of the urine, as the changes in concentration occur in an opposite sense to those of the other solid constituents.*

86. Laparatomy in Tuberculous *Peritonitis.*—*Göschel* reports that one of the 3 patients whom he reported as cured (see The Journal, page 1035), later returned with progressing lesions. After six years of apparent cure the tuberculous peritonitis resumed a progressive course.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1612.

87 (LXXVIII, Nos. 1-3.) Zwei Fälle von Struma baseos linguæ. K. Meixner.

88 Ueber Laminektomie bei spondylitischer Lähmungen (paralyses). C. Sultan.

89 Die Lagerung des Nervus radialis bei Oberarmbrüchen der Diaphyse (position of nerve in case of fracture of upper arm. J. Fessler.

90 Zur Frage der operativen Behandlung der intrakapselären Schenkelhals-Frakturen (of neck of femur). H. Ito and S. Asahara.
91 Die Medullar-Anästhesie mittelst Cocain-Suprarenin. L. Kurzwelly (Braun's service, Leipsic).
92 Zwei Fälle von Volvulus des Meckelschen Divertikels. Fehre.
93 *Zur Frage der Contagiosität des Erysipels. Franke.
94 *Experimentelle Untersuchungen über die Einwirkung der Roentgen-Strahlen auf das Knochenmark, nebst einigen Bemerkungen über die Roentgen-Therapie der Leukämie und Pseudo-Leukämie und des Sarcoms. H. Heineke.
95 Surgery of Stomach.—Modifikation der Kocher'schen Magen-Resektion. F. Schultze.
96 Ueber lokalen Tetanus beim Menschen. Axhausen.
97 Experimentelle Studie zur Colostomie-Methode nach v. Mosetig-Moorhof. M. Silbermark and P. Döméný.
98 Ein neuer Rollen-Apparat zur Extensions-Behandlung. Linnartz.
99 *Operation on Kidney for Scarlatinal Anuria. Recovery.—Decapsulation und Stichelung der Niere wegen 4tägiger Anurie nach Scharlach. Herstellung der Diurese, Genesung. M. Schmidt.
100 Zur Frage der Struma-Metastasen. C. Goebel.

93. **Contagiousness of Erysipelas.**—Franke's research has demonstrated, he thinks, that the streptococcus enters through some solution of continuity in the skin or mucosa, possibly so minute as to be imperceptible. The coccus penetrates into the lymphatics beneath and sets up erysipelas or an abscess, according to the depth of its penetration or its virulence. It never comes to the surface in the vesicles or cast off epidermis, any more than in case of a phlegmon in a tendon sheath. The erysipelas patient is no more dangerous, he states, as a source of contagion than a patient with a phlegmon of this kind, so long as he does not scratch the patches. If they are scratched the lurking places of the streptococcus are liable to be disturbed and the exuding fluid may contain virulent streptococci. An erysipelas patient should have the patch covered with a protecting dressing the same as any abscess or phlegmon, and when this can be done effectually the patient, Frankel says, is no more dangerous to those around him than any patient with an infectious process. If the patch is on the face or where it can not be effectually protected, the patient had better be isolated until the symptoms of inflammation have subsided. When these are gone isolation can be suspended, as there is no danger of contagion from the scaling.

94. **Action of Roentgen Rays in Leukemia.**—Heineke expatiates on the remarkable harmony between clinical experience and the results of experimental research in respect to the action of the Roentgen rays on the cells of the blood-forming organs. After exposure of guinea-pigs for several hours to the rays, the white cells of the bone marrow, with but few exceptions, are destroyed. This destruction of the white marrow cells commences at nearly the third hour, reaches its height at about the eleventh hour, and the process is terminated by the end of five or six days. The lymphocytes succumb first and the ungranulated myelocytes, then the eosinophiles and the mast and giant cells, while the neutrophile polymorphous polynuclear cells remain intact longest. The injured bone marrow is capable of regeneration, which commences at about the second week and is complete by the third or fourth. During regeneration the ungranulated and the giant cells appear first, while the eosinophiles and the mast cells are the slowest to appear. These findings were obtained in 150 guinea-pigs after a single exposure of several hours' duration. They harmonize perfectly with what has been observed in the clinic, but the lymphoid tissue in man does not react so promptly and decidedly as in animals. The glandular tumors of pseudo-leukemia generally respond to Roentgen exposures with prompt retrogression, though some cases prove refractory. The soft, rapidly growing glandular tumors, abounding in lymphocytes, respond best to the exposures, as he illustrates by the report of a case personally observed. The possible rapid regeneration of the tumors when the exposures are suspended is one of the facts which testify that the rays do not reach the causal agent. Experiences with sarcomata indicate that those whose cells approximate most closely the lymphoid tissue are most susceptible to the action of the rays. In man the rays seemed to exert a favorable action on the red cells and the hemoglobin, but no confirmatory findings of this have yet been obtained in animals.

99. **Decapsulation of Kidney for Scarlatinal Anuria.**—The patient was a boy of 6 with acute, threatening anuria for several days, but no signs of nephritis, on recovering from scarlet fever. The kidney was exposed under chloroform anesthesia and the capsule slit. The kidney was a dark brownish, bluish red in color, soft but not distended, and when the puncture needle was introduced for 1 cm. half a dozen times very little blood escaped. The wound was sutured over a gauze drain and the child rapidly recuperated and soon regained his usual health.

Zeitschrift f. klinische Medizin, Berlin.

Last indexed page 881.

101 (LVII, Nos. 3-4.) *Zur Diagnose der relativen Insuffizienz der Mitralis und Trikuspidalis und über den positiv-zentrifugalen Venen-Puls bei Anämischen. W. von Leube (Würzburg).
102 Experimentelle Untersuchungen über Glykolyse. L. Rapoport.
103 *Klinische und exp. Beitraege zur Kenntnis der Krankheitsbildes der Polycythämie mit Milz-Tumor und Zyanose (polycythemia with enlarged spleen). P. Reckzeh.
104 *Hämatologische Untersuchungen über einige Fälle von Splenomegalia leucopenica. L. d'Amato (Naples).
105 *Ueber die Folgen subkutaner Kochsalzzufuhr nach Nephrektomie (consequences of saline infusion after nephrectomy). Brandenstein and Chajes.
106 Behavior of Red and White Corpuscles in Infections and Intoxications and After Administration of Albuminoids and Curative Serums.—Experimentelle Untersuchungen zum Verhalten der Blutkörperchen, etc.; ein hematologisch untersuchter Fall von Katheter-Fieber beim Menschen. J. Arneth.
107 *Klinische und path.-anatomische Beiträge zum Bronze-Diabetes. E. O. Hess and E. Zurhelle.
108 *Ueber die Dilatatio et Hypertrophia coli (Hirschsprung). A. Mülberger.
109 Vergleich zwischen den organischen und anorganischen Fermenten (comparative study). P. Bergell.
110 Ueber Ausstossung röhrenformiger Ausgüsse aus Oesophagus und Magen nach Verätzung (expulsion of cast of esophagus and stomach after destruction by caustic). H. Grau.

101. **Relative Valvular Defects in Anemia.**—A positive centrifugal pulse is sometimes noted in the jugular vein in case of anemia, von Leube announces. It may be slight or pronounced, and is evidently the consequence of the functional muscular insufficiency of the tricuspid valve, the result of anemia. The origin is the same as for the relative mitral insufficiency in chlorosis. The symptoms in each case subside as the patients progress toward recovery. The relative tricuspid insufficiency in anemic individuals appears at the same time as the relative mitral insufficiency, in which it differs from the tardily appearing tricuspid insufficiency in the course of an endocarditic mitral defect. This early coincidence with mitral insufficiency and its persistence without severe disturbances in the circulation, are grounds for assuming the relative character of the mitral defect. A positive centrifugal venous pulse is also observed at times in anemic subjects without signs of tricuspid insufficiency. In some of these cases at least, this must be referred to a latent tricuspid insufficiency which may eventually become manifest.

103. **Polycythemia and Enlarged Spleen.**—Reckzeh states that reports of 29 cases of this affection have been published, and he adds to the list 5 personally observed. It seems to be an established fact that the symptom-complex of polycythemia with enlarged spleen and cyanosis can be observed in connection with primary tuberculosis of the spleen, but it is equally well established that the syndrome can occur without a tuberculous affection of the spleen. In one of Reckzeh's cases a young man presented a slowly growing malignant tumor of the thymus and lung which caused gradual compression of the superior vena cava. The result was cyanosis, polycythemia and enlargement of the spleen. Experiments on animals confirmed the lesson learned from this case, namely, that compression, causing stagnation of the blood, is alone sufficient to induce the development of the syndrome. Stagnation of the blood is probably, therefore, the cause of all the cases. This stagnation may be the result of diminished tonicity of the veins. The prognosis is generally bad, the cases progressing slowly to a fatal termination although showing marked and prolonged remission at times. Iodin, quinin and arsenic failed to produce any permanent benefit in his experience. Ehrlich recommends quinin and regulation of the diet to avoid iron. In one case Türk gave up to 30 drops of Fowler's solution daily for months and beheld the symptoms subside under this treatment. Symptomatic improvement has been obtained by withdrawal of blood, but it proved merely transient. Splenectomy has been proposed, especially for the cases with tuberculosis of the spleen. Reckzeh comments that it is impossible to diag-

nose positively a tuberculous affection of the spleen even with an exploratory incision. The hemorrhagic diathesis displayed by these patients should also suggest caution. In 3 cases on record splenectomy had an unfavorable effect, but, on the other hand, 8 cases are on record of isolated tuberculosis of the spleen in which a cure followed extirpation of the organ. Roentgen treatment has been tried and Vaquez and Laubry report improvement in the general condition in one case after three exposures with seven-day intervals; the composition of the blood remained uninfluenced.

104. **Leucopenic Splenomegaly.**—D'Amato concludes from his examination of 2 cases of Banti's disease, 2 of chronic malaria and one of syphilis affecting predominantly the liver and spleen, that the cause of splenomegalic leucopenia can not be sought in the distribution of the leucocytes in the different vascular regions, nor in any leucotoxic action on the part of the blood serum. He ascribes it to the condition of the blood producing organs, especially the bone marrow and spleen.

105. **Consequences of Saline Infusion After Nephrectomy.**—This article issues from Senator's clinic and is a contribution to the question as to the origin of hydrops renalis. Both kidneys were removed from rabbits and 1 per cent. salt solution or pure water was injected afterward. Among the various conclusions drawn from the results observed is that not all the molecules retained in case of insufficiency of the kidneys are of equal value in respect to the development of dropsy. When salt solution was injected whose percentage of salt was higher than that of the blood, the percentage of salt in the blood serum scarcely showed any rise, while the figures representing the osmotic pressure and the percentage of residual nitrogen showed a more or less marked rise. At the same time the refraction coefficient of the blood serum became reduced. It was evident that the main part of the retained salt was held in the juices and not in the parenchyma of the liver. Edema, hydrothorax and ascites were observed in nearly all the animals, more pronounced in the saline-injected animals than in those injected with water alone. It seems to have been established that certain organic substances contained in the residual nitrogen and the hydremic composition of the blood alter the walls of the vessels so that they become abnormally permeable for fluids. On account of these changes the masses of fluid which have gradually accumulated in the blood pass over into the tissues. An abnormal accumulation of fluid in the blood and lymph vessels first occurs in case of renal insufficiency when the salt accumulated in the vessels retains a corresponding amount of water. In advanced stages the insufficiency of the kidneys aids as a further factor in the accumulation of the water by direct disturbance also of the water-eliminating function of the kidneys.

107. **Bronzed Diabetes.**—Hess and Zurhelle conclude from their study of 2 cases that the cirrhosis of the liver and the hemochromatosis long precede the diabetes. They are independent of each other, but are probably all due to a single cause, some peculiar disturbance in the metabolism, possibly fostered by alcoholism. They accept Murri's theory that some permanent injury in the economy of the general metabolism leads to a general "dystrophy of the cells." This is manifested in the appearance of two abnormal properties, a capacity on the part of the tissues to take up the blood pigment (liberated by the enhanced destruction of the red corpuscles), and by a capacity for proliferation of the connective tissue, especially in the liver. The other abnormal property acquired is the reduction of the normal capacity for oxidizing carbohydrates (diabetes).

108. **Dilatation of the Colon.**—In pondering on the fatal termination in a case of dilated colon and sigmoid, Mülberger asks whether or not the patient, a boy of 13, might not have been saved by exclusion of the entire colon and an anastomosis between ileum and rectum. The disturbances are generally too slight to warrant such a serious operation, and when the syndrome becomes threatening it is usually too late for interference. The prospects for recovery would be much better if the diagnosis could be made in the early stages, when the dilatation is still within reasonable bounds. He remarks that there are about 80 cases of this disease on record. He recognizes two types, that with stiffening of the intestines, peristaltic unrest and excessive development of gas, and the form in which there is no peristalsis, the gas development does not surpass the normal range and the accumulation of fecal masses predominates in the syndrome.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be *made for review*, as dictated by their merits, or in the interests of our readers.

Scientific Memoirs. Officers of the Medical and Sanitary Departments of the Government of India. Issued under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Calcutta: Office of the Superintendent of Government Printing, India, 1902.

No. 1. Standardization of Calmette's Anti-Venomous Serum with Pure Cobra *Venom: The Deterioration of this Serum* Through Keeping in India. By G. Lamb, captain, I.M.S. and W. W. Hanna, Esq., M.B. Price, 3 annas (4d). From the Plague Research Laboratory, Bombay.)

No. 2. Malaria in India. By Captain S. P. James, M.B., I.M.S. (On Special Duty with the Royal Society's Commission on Malaria.) Price 1 real, 8 annas, or 2s. 3d.

No. 3. Some Observations on the Poison of Russell's Viper. (*Daboia russellii*). By G. Lamb, Captain, I.M.S., and W. Hanna, Esq., M.B. Price, 5 annas, or 6d.

No. 4. The Action of the Venoms of the Cobra (*Naja tripudians*) and of the Daboia (*Daboia russellii*). On the Red Blood Corpuscles and on the Blood Plasma. By G. Lamb, Captain, I.M.S. Price, 8 annas, or 9d.

No. 5. Specificity of Antivenomous Sera. By G. Lamb, M.D. (Indian Medical Service). Price, 3 annas, or 4d.

No. 6. First Report of the Anti-Malarial Operations at Mian Mir, 1901-1903. By Captain S. P. James, M.B., I.M.S. Price, 12 annas, or 1s. 2d.

No. 7. Some Observations on the Poison of the Banded Krait (*Bungarus fasciatus*). By Captain G. Lamb, M.D., I.M.S. Price, 8 annas, or 9d.

No. 8. Preliminary Report on a Parasite Found in Persons Suffering from Enlargement of the Spleen in India. Lieut. S. R. Christophers, M.B., I.M.S. Price, 1 rupee 8 annas.

No. 9. Second Report of the Anti-Malarial Operations at Mian Mir, 1901-1903. By Lieut. S. R. Christophers, M.B., I.M.S. Price, 10 annas, or 1s.

No. 10. Specificity of Antivenomous Sera. (Second Communication). By Captain G. Lamb, M.D. Price, 8 annas, or 9d.

No. 11. A Parasite Found in Persons Suffering from Enlargement of the Spleen in India. Second Report. By S. R. Christophers, M.B., I.M.S. Price, 2 rupees, or 3s.

No. 12. The Morphology, Teratology and Declinism of the Flowers of Cannabis. By Major D. Prain, M.B., I.M.S. Price, 14 annas, or 1s. 4d.

No. 17. Snake-Venoms in Relation to Hemolysis. By Capt. G. Lamb, M.D., I.M.S. Price, 6 annas, or 7d.

No. 18. Hemogregarina Gerbilli. By Lieut. S. R. Christophers, M.B., I.M.S. Price, 10 annas, or 1s.

No. 19. Kala Azar, Malaria and Malaria Cachexia. By Captain S. P. James, M.B., I.M.S. Price, 1 real 4 annas, or 1s. 11d.

Post-Operative Treatment. An Epitome of the General Management of Postoperative Care and Treatment of Surgical Cases as *Practiced by Prominent American and European Surgeons.* By N. C. Morse, A.B., M.D., 155 Illustrations and 5 Plates. Cloth. Pp. 468. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1905.

Treatise on Diseases of the Skin. For the Use of Advanced Students and Practitioners. By H. W. Stelwagon, M.D., Ph.D. Fourth Edition. Thoroughly Revised. 258 Illustrations, and 32 full-page lithographic and half-tone plates. Cloth. Pp. 1136. Price, $6.00 net. Philadelphia: W. B. Saunders & Co., 1905.

Clinical and Pathological Papers from the Lakeside Hospital, Cleveland. (Comprising 40 articles from workers in the different services of the hospital, which have appeared in various medical journals). Series II, paper. Published by the Hospital, 1905.

Text-B[illegible] Pharmaceutical Chemistry. By E. H. B[illegible] [illegible].G. Sixth Edition, thoroughly revised; 90 [illegible] Pp. 734. Price, $3.00. Philadelphia: P. [illegible] 1905.

National Academy of Sciences. Vol. X. Third memoir. A Research on the Action of Alcohol on the Circulation. By H. C. Wood and D. M. Hoyt. Paper. Pp. 68. Washington: Government Printing Office, 1905.

Report of the Surgeon-General, U. S. Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy. 1905. Paper. Pp. 203. Washington: Government Printing Office, 1905.

A Text-Book of Physiology. For Medical Students and Physicians. By W. H. Howell, Ph.D., M.D., LL.D. Illustrated. Cloth. Pp. 905. Price, $4.00. Philadelphia: W. B. Saunders & Co., 1905.

Manual of the Diseases of Infants and Children. By J. Ruhräh, M.D. Illustrated. Flexible Leather. Pp. 404. Price, $2.00 net. Philadelphia: W. B. Saunders & Co., 1905.

The Physician's Visiting List for 1906. Fifty-fifth Year of its Publication. Leather Cover. Pocket. Price $1.00. Philadelphia: P. Blakiston's Son & Co., 1905.

Anatomy and Physiology for Nurses. By L. Lewis, M.D. Illustrated. Cloth. Pp. 317. Price, $1.75 net. Philadelphia: W. B. Saunders & Co., 1905.

Board of Health. Register of Physicians of State of West Virginia, to Dec. 31, 1904. Paper. Pp. 143. Press of the Herald, Huntington, 1905.

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Original Articles

ARE THE PROTEOLYTIC AND MILK COAGULATING EFFECTS OF GASTRIC AND PANCREATIC JUICE DUE TO ONE AND THE SAME ENZYME?*

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BALTIMORE.

The distinguished St. Petersburg physiologist, J. P. Pawlow, associated with S. W. Parastschuk, has published[1] a series of experimental investigations under the above heading. The view hitherto held and still held by most physiologists is that the proteolytic and milk-coagulating effects of gastric juice and pancreatic juice are due to specific enzymes. The earlier investigations on the subject date from Hammarsten.[2] In order to state precisely the direction of the inquiry, it is necessary to emphasize that Pawlow and Parastschuk attempt to prove that a separate and distinct milk-curdling enzyme does not exist, but that the milk coagulation is only a property of the pepsin. The *Fragestellung* here is not precise as might be desirable, for proteolytic and milk-coagulating effects might be conceived as attributable to one and the same proteid ferment, and yet pepsin and chymozin may be two different enzymes, for we may conceive that pepsin, the proteolytic enzyme, possesses also, to a certain extent, a milk-coagulating effect, which is only developed in an acid reaction and not in a neutral reaction, and, as far as human gastric juices are concerned, it can be stated that such an enzyme occurs which will curdle milk in the presence of an amount of HCl which, as a rule, is normal to human gastric juice (two parts per thousand), but will not curdle milk if the gastric juice is exactly neutralized. This disappearance of milk-coagulating power in the case of canine gastric juice, after it had been neutralized with sodium bicarbonate, was noticed by Pawlow and Parastschuk (p. 422), but they attributed this disappearance to a destructive effect of the alkalies employed, particularly to Na_2CO_3. When the juice was neutralized with $NaHCO_3$, the ferment could be preserved. To the destruction of the pepsin by alkalies they attribute their inability to separate these two enzymes by Hammarsten's method (shaking of gastric juice with magnesium carbonate, by which the pepsin is torn down by this insoluble powder), while the chymozin remains in solution. The *third and* fourth filtrates prepared in this way will coagulate milk energetically, but will not digest raw fibrin in twenty-four hours, not even if raised to the normal acidity. But Pawlow asserts that when this fibrin was diluted five to ten times its volume with 0.1 to 0.2 per cent. solution of HCl, the proteolytic effect on fibrin became distinctly evident.

The two enzymes, however, can be separated in a much simpler manner; by heating gastric juice to 65 degrees C. for ten minutes the chymozin can be destroyed. When chymozin is in solution together with HCl, three parts per thousand, the enzyme can be destroyed completely if the solution is kept at a temperature of 37 to 40 degrees C. for forty-eight hours.[3]. The pepsin is not destroyed by this process. In this manner a pepsin solution free from chymozin can be obtained. A solution of parachymozin free from pepsin can also be prepared in a similar manner.[4] Bang's investigations have made it very highly probable that the chymozin enzymes of different animals are by no means identical, but show striking differences in milk-coagulating power. Accordingly it becomes necessary in testing the results of previous investigators, to use the chymozin from the same animals as they employed.

In experiments with milk coagulation which extend over ten hours it must not be overlooked that milk may coagulate spontaneously when drawn and preserved under absolutely sterile conditions. Pawlow and Parastschuk, in attempting to demonstrate that proteolytic and milk-coagulating effects are attributable to one and the same enzyme, offer as proof of their assertion the parallelism of effects and proportionality of work done. The degree of proteolysis was measured in millimeters of a column of boiled albumin (Mett's method, devised in Pawlow's laboratory), and the degree of coagulating power was measured by the time that was required to coagulate 10 c.c. of milk by varying amounts of gastric juice. The coagulation of the milk always occurred in an acid reaction. The acidity of the various portions of the gastric juice was equalized by 0.5 solution of HCl. In Table 1, Pawlow[1] demonstrates that the least chymozin was secreted when the test food was milk (10 c.c. of milk coagulated in fifty minutes), and the most chymozin was secreted when the test food was bread (10 c.c. of milk coagulated in two and one-half minutes by the juice of the same animal). This same animal digested 5.8 mm. of albumin column (Mett), showing that the proteolytic power was very active also in the same bread juice. But in Table 2 we are told that a bread juice which digested 4.8 mm. did not coagulate 10 c.c. of milk until three minutes and ten seconds had elapsed, forty seconds longer than the previous juice, which had digested the same length of albumin column. In Table 2 the coagulation time is approximately the *same* for bread, meat and milk juice, 190 to 195 seconds, but the relative concentration of the ferments is placed at 1 for bread juice, 4.29 for meat juice, and 8.41 for milk juice. On page 419 the authors assert that this Table 2 shows a perfect proportionality of proteolytic effects and of milk-curdling power. The further efforts of these investigators were directed toward showing a parallelism of these two effects of gastric juice under the (a) influence of putrefaction of the juice; (b) the influence of heat (Table 5), and (c) the influence of chemicals, salts, bile and alcohol, etc. Similar experiments are then narrated concerning pancreatic juice obtained in various ways. It is interesting to learn that the pancreatic juice as secreted was inactive for curdling milk, and had to be activated by the addition of succus entericus and that the activation of the milk-curdling agent occurs at the same rate as the activation of the proteolytic agent, under the influence of succus entericus (enter-kinase).

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Hoppe-Seyler's Zeitsch. f. physiol. Chemie, vol. iv, pp. 415 to 452: "Ueber die ein und demselben Eiweissfermente zukommende proteolytische und milchkoagulierende Wirkung verschiedener Verdauungssäfte."

[2] Maly's Jahres Berichte, vol. ii, 1872, p. 118. See also Hammarsten's Lehrbuch der physiol. Chemie, 5th edition.

[3] Hammarsten, p. 271.

[4] Pflüger's Archiv, vol. lxxix, p. 425. Article by Ivar Bang.

On page 432 we are told that Table 12, which shows the proteolytic power and milk-coagulating power of juice (1) from the gastric pepsin glands, (2) from pylorus glands, and (3) from Brunner's glands, gives the evidence that the two powers correspond perfectly. Table 12, however, does not show this convincingly. In the second column of that table the proteolytic power is shown to shrink from 2.5 mm. (Mett) for pepsin gland juice to 0.5 mm. (Mett) for Brunner's gland juice. But the milk-coagulating time for pepsin gland juice is 27 minutes, for Brunner's gland juice is 18 minutes. In order to show an exact proportionality, the milk ought to have been coagulated in the same periods of time, as is shown in Table 2. But it is apparent from Table 12 that as the proteolytic power sank the coagulating power became intensified. Possibly an involuntary distinction is made between these two effects on page 439, where dilution is said to favor the proteolytic power, restoring it when it had been destroyed by the cold sodium acetate.[5] But, on the other hand, dilution is said to destroy the coagulative power. A reduced proteolytic power under the checking influence of salts, or dilution, does not necessarily indicate that the ferment is present in smaller quantities. It may be that the substance which is to be acted on proteolytically—the albumin or the fibrin—is so altered by the salts or other substances employed as to render them more insoluble. This can be demonstrated by performing experiments with known strengths of pepsin, allowing it to act first on ordinary pure fibrin, and then on fibrin which has been allowed to become saturated in a 20 per cent solution of sodium acetate. The proteolysis will be markedly less in the last case.

Hammarsten[6] objects to the main conclusion of Pawlow and Parastschuk that the two effects spoken of are due to one and the same enzyme, on the ground that two different rules exist, according to which these two effects depend on the quantity of ferments. According to Pawlow, however, the time of these reactions varies with the conditions influencing them. Some may accelerate and others may prolong the time of reaction. The chief conditions which he cites are alkalinity, acidity of the medium, and the degree of dilution. The authors recognize three rules under such conditions. A neutral solution of chymozin causes milk coagulation provided it is present in the solution in a certain definite concentration: (1) Then coagulation occurs according to the rule of inverse proportionality between the quantity of the ferment and the coagulation time; (2) when the chymozin is in acid solution the quantities of the ferment are inversely proportional to the square root of coagulation time, that is, the reaction is progressively accelerated; (3) when, in a very much diluted neutral solution of ferments, the quantities of the enzymes are proportional to the square of the coagulation time. These three varying conditions concern mainly the milk-coagulating power. In a similar way, Pawlow shows that the rules of the dependence of the effects of enzymes on the amounts of the enzymes can be influenced by external conditions. All such rules are reliable only within very narrow limits.

After reading the article as abstracted, we are justified in asking whether parallelism of effects and proportionality of work done in two different catalytic actions, really constitute satisfactory proof that the two actions are due to one and the same catalyzer. Pawlow and Parastschuk demonstrate that the proteolytic and milk-curdling effects of pancreatic juice show a parallelism and proportionality under varying conditions. But the same can be shown to be true of the amylolytic and fat-splitting power of pancreatic juice. Why, then, not assert that the amylolytic and lipolytic effects are due to one and the same enzyme also? Neilson[7] has shown that colloidal platinum, like lipase, can bring about hydrolysis and synthesis of fats. He also shows that this hydrolysis by platinum increases with the concentration of the platinum, increases with the temperature, is independent of the concentration of the ethyl butyrate, and that poisons[8] reduce the hydrolysis by platinum black. These same variations of effects, under the influence of concentration, temperature, poisons and salts, can be shown to exist with regard to the effects of a number of organic enzymes. For example, in the case of saliva it can be shown that the amylolytic action, the conversion of starch into maltose, is increased by concentration of the ferment, and by heat, but is injured by certain chemicals almost in the same manner as lipase is injured in its hydrolysis of ethyl butyrate (experiments of Loevenhart). If, therefore, we should execute a series of experiments in two series, one with colloidal platinum on ethyl butyrate under these varying conditions, and the other with saliva under varying conditions, certainly a rising or falling of the amount of catalytic work done, that is, a parallelism of effects, could not be asserted as proving that the two different effects are due to one and the same catalyzer in this case, for we know that two different agents are used in the experiments. The figures of the hydrolytic effect of colloidal platinum are given in the article by Hugh Neilson.[7]

When chymozin or rennet is separated from the stomach of a calf by Blumenthal's method,[9] an amorphous, white, gelatinous substance is gained, which greatly resembles aluminium hydrate in appearance. This precipitate is nearly pure rennet, and a very small portion of it speedily causes coagulation of milk. It has no odor or taste when prepared by this method, readily dissolves in water, and forms a clear solution. Blumenthal asserts that the same treatment will separate two enzymes from the so-called pepsin essences of commerce, and that the mother liquid from which the rennet is removed has no curdling action. The trypsin and chymozin of the pancreatic juice was separated by Roberts. A salt solution extract of a pancreas was slightly acidulated with HCl and kept at 40 degrees C for three hours. When neutralized, it was found that the trypsin had been destroyed, while the rennet or chymozin was unharmed.

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[5] Criticism of Glessner's experiments in Beitr. z. chem. Physiol. u. Path., vol. i, 1901.

[6] Lehrbuch der Physiolog. Chemie.

[7] Am. Jour. Physiol., vol. x, p. 191.

[8] Ibid., table, p. 197.

[9] J. Reynolds Green, Soluble Ferments, etc., Cam. Nat. Sci., Man., 1899, p. 237.

W. D. Halliburton and Brodie draw a distinction between gastric and pancreatic rennet which has not been noted by previous observers. According to them the clotting indicated by pancreatic rennet is not a true coagulation, but a precipitation which takes place in a warm bath at 35 to 40 degrees C. The precipitate is finely granular and can not be detected by the naked eye. On cooling it to the temperature of the air, it sets into a coherent curd which can be again broken up by warming to 35 degrees C., when the granular condition returns, and the milk appears fluid. This may be repeated several times. Halliburton and Brodie call the proteid in this condition "pancreatic casein," and they say it can be converted into tyrein by gastric rennet.

The chymozins of different animals are not identical, and the chymozins of different organs in the same animal, as Halliburton and Brodie have shown, are not identical. The differences in the chymozins of various animals are considerable.[10] Most of the experiments with chymozin or rennet made prior to the publication of Pawlow and Parastschuk were made with the chymozin of the calf's stomach, and not until a comparative and quantitative study of the various chymozins has been made can it be proved that the milk-coagulating power of all chymozins is alike, or that this power is governed by the same rule with all forms of this ferment. Dilution, for instance, affects the milk-curdling power of chymozin from the pig in a different manner from the chymozin obtained from the dog. For comparing the effects of their chymozin with the results of previous investigations, it would have been necessary for Pawlow and Parastschuk to use the chymozin from the same animal.

Pawlow and Parastschuk, in attempting to prove that proteolysis and milk-curdling effects are due to one and the same enzyme, laid greatest stress on the demonstration of [illegible] of effects under various chemical and [illegible], and, secondly, on proportionality of work done. To subject a digestive secretion that gives evidence of two strikingly different effects to varying external influences, and thereby showing that the effects increase and diminish *together, or disappear* together, can hardly be considered a satisfactory form of experimental logic to prove that these two different effects are due to one and the same molecule. The work of these authors proves that the technic and method of experimentation may be objective and perfect, and yet the interpretation or subjective deduction therefrom may be unsatisfactory.

In order to make clear my meaning I will cite the example of two well-known digestive enzymes, the actions of which occur best in a mildly alkaline medium, ptyalin of the saliva, and trypsin of the pancreatic juice. Both trypsin prepared by Kühne's[11] method and ptyalin can be shown to be augmented and inhibited in their characteristic effects on fibrin and boiled starch, respectively, by temperature, by chemicals and poisons, by concentration and dilution. The amount of ptyalin and the amount of boiled starch in the one case, and the amount of trypsin and the proteid on which it acts, either fibrin or boiled egg albumin, can be so adjusted that a parallelism of effects and proportionality of work done can be

EXPERIMENTS WITH DOG SALIVA AND TRYPSIN (PANCREATIC JUICE), DEMONSTRATING EFFECTS OF INCREASE OF TEMPERATURE, ON DIGESTION OF BOILED STARCH AND ALBUMIN RESPECTIVELY.

Canine saliva and trypsin solutions were subjected in different and separate portions to the various temperatures stated in column 1, and thereafter their amylolytic and proteolytic power tested.

Temperature. Deg. C.	SALIVA.	PANCREATIC JUICE—TRYPSIN.
	Mm. of Boiled Starch Column Digested.	Mm. of Albumin Column Digested.
10	4.20	5.52
12	4.15	5.5
15	4.25	5.9
20	4.25	6.
30	5.1	6.5
40	4.95	5.9
50	3.5	4 5
52	2 75	3.62
54	2.	3.
56	0.5	0.9
58	0.3	0.5
60	0.	0.
62	0.	0.
64	0.	0.

Both enzymes exhibit at first a slight increase of their characteristic effects followed by a gradual diminution until the enzymes are completely destroyed at 60° C., a parallelism of effects—which can also be demonstrated if both saliva and trypsin solution are *poured together and a starch*, as well as an albumin tubule, placed *in the combined solution simultaneously*. But here the action of amylopsin requires exclusion.

TESTS FOR ANY CHANGE OF ACIDITY VALUES IN THE GASTRIC JUICE ON STANDING AT ROOM TEMPERATURE.

Comparisons of work done by pepsin and chymozin of human gastric juices, together with quantitative determination of the free HCl and the total acidity. Gastric filtrates allowed to stand at room temperature for varying periods.

Notes.—1. Same gastric juice of Spencer when left in incubator at 36° C. began to lose its proteolytic power in 20 days. The milk-curdling power diminished more rapidly and *disappeared entirely on the* eighteenth day.

2. From Spencer a very large test meal was drawn, amounting to 760 cubic centimeters of gastric chyme, which was kept under experimentation 56 days.

3. In this table the figures show the proteolysis to diminish gradually from 8 mm. on January 3, to 4 mm. on February 28, but the milk-coagulating power diminishes much more rapidly and out of all *proportion* to the rate in which the proteolytic power diminishes. No parallelism in the diminution of these effects is here detectable.

WEINBERG.	*November.*					
Date	17	18	19	21	22	23
Free HCl.	39	42	44	42	42	41
Total Acid.	62	64	63	65	56	70
Proteolysis in terms of millimeters of Mett albumin tubes.	4.5	4	4.5	4	4.5	4
Chymozin: 10 c.c. milk coagulated in minutes.	3′	3′30″	3′	3′	3′30″	3′

CARTRIDGE.	January.								
Date.	17	18	20	23	25	26	28	30	31
Free HCl.	74	76	76	74	74	76	72	78	74
Total acidity.	100	104	108	104	104	104	102	106	106
Proteolyis in terms of millimeters of Mett albumin tubes.	8	8	8	8	8	8.5	7	7.5	6
Chymozin: 10 c.c. milk coagulated minutes.*									

HAMILTON.	Dec.	January.									
Date.	30	3	5	7	10	12	14	18	20	22	26
Free HCl.	65	60	64	66	70	62	64	68	70	66	68
Total acidity.	110	110	116	120	124	120	118	118	120	118	118
Proteolysis in terms of millimeters of Mett albumin tubes.	6.5	6	6.5	6.5	7	6	6	6.5	7	6.5	6.5
Chymozin: 10 c. c. milk coagulated in minutes.*	4′	4′10″	4′	4′	3′10″	3′40″	3′40″	3′45″	3′10″	4′	4′

*Increasing cloudiness of gastric filtrate made the exact time of turning of the dimethyl amido benzol more difficult to recognize as the filtrate became older.

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[10] Pflüger's Archiv., vol. lxxix, p. 425.

[11] Unters. a. d. Physiol. Institut der Universität Heidelberg, vol. i, p. 222.

DAWKINS.	January.			February.						
Date	25	28	30	1	4	7	8	10	14	18
Free HCl	60	62	62	62	62	60	60	62	62	62
Total acidity	90	100	88	88	98	96	100	110	105	100
Proteolysis in terms of millimeters of Mett albumin tubes.	5	4 5	5	4.5	4.5	5	5	5	5	5
Chymozin: 10 c. c. milk coagulated by 2 c.c. gastric filtrate in minutes.	1'	1'	1'5"	1'5"	1'5"	1'5"	1'5"	1'5"	1'5"	1'5"

WARNER.	February.											
Date	1	2	4	6	8	10	14	16	20	21	24	26
Free HCl	26	24	24	26	26	26	28	26	28	26	28	28
Total acidity	66	70	72	74	72	72	72	70	70	68	70	68
Proteolysis in terms of millimeters of Mett albumin tubes.	3	3	3	3		3	3 5	3.5	3	3 5	3.5	3.5
Chymozin; 10 c.c. milk coagulated in minutes.	5'	5'	5'	5'	5'		8'30"	10'15"	10'5"	11'	12'	15'10"

SPENCER.	February.										
Date	1	3	6	10	14	16	18	20	22	24	28
Free HCl	60	59	59	58	57	55	50	50	48	48	46
Total acidity	65	66	66.5	67	68	67.5	68	69	70	72	74
Proteolysis in millimeters of Mett Albumin tubes.	6	5.5	5	5	5	5	4.5	4.5	4	4	4
Chymozin: 5 c. c. sterile milk coagulated by .2 c.c. gastric filtrate in minutes.	1'0"	1'2"	1'2"	2'0"	3'5"	3'5"	4'0"	5'5"	10'	12'5"	20'5"

WARD.	November.													December.		
Date	16	17	18	19	21	22	23	24	25	26	28	29	30	1	2	3
Free HCl	34	31	34	34	32	32	34	32	32	32	34	32	32	31	32	32
Total acid	48	47	48	48	48	48	48	50	50	50	49	48	50	48	48	49
Proteolysis in terms of millimeters of Mett albumin tubes.	5	5	5	5	5	5	5	5	4.5	4.5	5	4.5	4 5	4	3.5	3.5
Chymozin 10 c.c. milk coagulated by 0.2 c.c. gastric filtrate in minutes.	3'15"	3'15"	3'15"	3'15"	3'15"	3'15"	3'15"	3'10"	3'20"	3'20"	3'24"	5'	5'	.3'	6'	8'

PYLE.	November.			December.									
Date	22	24	25	1	2	3	4	5	6	7	8	9	10
Free HCl	29	29	30	30	31	30	30	31	30	31	31	31	32
Total Acid	64	64	66	65	65	64	65	66	64	65	64	64	64
Proteolysis in terms of millimeters of Mett albumin tubes.	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5.5	5.5	5.5	5.5	5
Chymozin: 10 c. c. milk coagulated in minutes]	3'30"	4'	4'	3'50"	3'50"	3'50"	3'50"	3'50"	3'20"	3'20"	3'20"	3'20"	3'20"

SPENCER.	January.																
Date	3	4	5	6	7	9	12	14	15	18	20	21	24	26	28	30	31
Free HCl	60	60.5	60.5	61	60	60	61	60 5	61	61	66	65	65	65	65	60	59
Total acidity	64	66	64	66	66	64	65	65	66	65	60	60	59.5	59.5	60	65	65
Proteolysis in terms of millimeters of Mett albumin tubes.	8	8	8 5	8.5	8	8	8	8	8 5	8	8	8.5	8	7.5	7.5	7.5	7.5
Chymozin: 5 c. c. sterile milk *coagulated by .2 c.c. gastric filtrate* in minutes.	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	1'8"	1'8"	1'8"	1'8"

shown to exist between these two ferments. If the same logic were applied to these phenomena as Pawlow and Parastschuk apply to milk-curdling and proteolysis, it would be equally possible to assert the amylolysis and proteolysis are due to one and the same enzyme, if it were not positively known that two definite enzymes were employed.

The method employed in Pawlow's laboratory to determine the degree of amylolysis is similar to that of Mett for proteolysis. Mett tubes are employed which are filled with filtered egg albumin coagulated in a water bath, and sealed at both ends with sealing wax. For amylolysis the tubes are filled with boiled starch in a similar manner. The diastasic power is expressed by the number of millimeters of boiled starch digested in a given time.

One of the most interesting facts discoverable during persistent analyses of human gastric juices is the total absence in some of them of the milk-curdling enzyme, while at the same time the peptic or proteolytic enzyme is present. This is proved by the fact that while the filtrate from test meals, consisting of bread and water, will not curdle milk, it will give the biuret reaction after it is added to discs of boiled egg albumin or to fibrin. This occurs in certain stages of chronic atrophic gastritis, when the milk-curdling enzyme disappears before the peptic enzyme. I have also seen it in two cases of cancer of the stomach. I must emphasize, however, that I have studied the gastric juice of two persons who are normal to all subjective and objective examinations. Into the stomach of one of these persons I poured a pint of milk, and withdrawing it by the stomach tube an hour thereafter it was in the identical condition in which it was poured down through the stomach tube. Nor did this milk coagulate after it was allowed to stand in an incubator for three hours. Nor could it be made to coagulate by the addition of varying amounts of calcium carbonate, nor by the addition of 1/10 normal solution of HCl added until the normal amount which be present in the gastric juice was reached. *Milk to which HCl is added* in this manner will coagulate when no enzyme is present, but it takes a much longer time. *Gastric juice which was boiled, and* thus had its enzymes destroyed, *did not coagulate milk any sooner* than a solution of HCl of the same strength. In testing milk coagulation on the addition of HCl, the time in which the coagulation occurs is an important factor in the determination.

The same persons whose gastric juice could not curdle milk produced a feeble proteolytic enzyme, for the filtrate from an Ewald test meal gave the biuret reaction. This conclusion is based on the assumption that the biuret reaction is an indication of the presence of peptones. These gastric juices, although they contain no free HCl, to the ordinary color test showed a feeble dissociation of methyl acetate by the Hoffman-Ostwald method of determining the free HCl. This probably indicates that the HCl may be so loosely combined with proteoses and acid albumin that it can readily dissociate and in the presence of pepsin produce peptones, though the ordinary color tests (Congo red, tropeolin(00) phloroglucinvanillin) are negative.

We had in these persons a demonstration of gastric juices: (1) That contained no free HCl, but combined HCl because they were capable of dissociating methyl acetate only slightly; but could form acid albumin and hemopeptone; (2) that could not coagulate milk; (3)

that gave the biuret reaction with an Ewald test meal. The conclusion seems justifiable that pepsin was present, but rennin or chymozin was absent, a conclusion which is difficult to harmonize with the view of Pawlow that the proteolytic and the milk-curdling effects are due to one and the same molecule.

As a further evidence of the differences between the chymosin of various mammalia, it should be stated that an antichymosin prepared by injecting the chymosin of the calf's stomach is not an antichymosin for the dog's milk-curdling enzyme. And, furthermore, an antichymosin (antilab) is not at the same time an antipepsin, that is, it does not arrest the proteolytic effect of the pepsin made from the stomach of the same animal from which the chymosin was prepared. If pepsin and chymosin (proteolytic and milk-curdling effects) were properties of the same molecule an antichymosin ought to be at the same time an antipepsin.

In their original article Pawlow and Parastschuk state that in their opinion chymosin acts synthetically, i. e., milk coagulation is the first stage toward the upbuilding of the new (native) proteid molecule; with this hypothesis they aim to bring their views in harmony with the modern idea of the reversible action of enzymes (Kastle and Lowenhart). Their viewpoint then is this: Pepsin and rennin (or chymosin) represent the same enzyme molecule—only pepsin acts analytically. Rennin (or the effect we attribute to the hitherto supposed rennin) is the evidence of the synthetic effect. Recently,[12] however Ernst Laqueur[13] has given the experimental evidence that chymosin or rennin acts analytically—i. e., splitting off a part of the casein molecule.

To Dr. R. A. Warner and Dr. J. Howard Iglehart, my associates, I am indebted for control analyses and tests in arranging above tables.

MINIMAL ALBUMIN REQUIREMENTS IN HEALTH AND DISEASE.*

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In 1891 I published[1] a series of experiments on the subject of the quantity of albumin necessary to keep a human individual in a normal nitrogen equilibrium.

At that time the quantity of albumin considered necessary for an adult in 24 hours was 118 grams, these figures resting on experiments made by Voit and his pupils.

I experimented on myself for a period of thirty days. The food, which was the same in quantity and quality for every twenty-four hours of the thirty days of experimentation, consisted of meat, rice, potatoes, bread, corn-starch, eggs, milk, sugar and butter, and contained 67.80 grams of albumin. The average quantity of nitrogen excreted in the form of urea by the urine, and estimated by the Kjeldahl method, amounted to 8.23 grams for every twenty-four hours, which, computed as albumin, amounts to 51.4 grams. This would leave 16.40 grams of albumin, or 2.62 grams of nitrogen unabsorbed by the gastrointestinal tract.

The organism, therefore, in these experiments, utilized 51.4 grams of albumin in twenty-four hours. Other experiments made at about the same period all tended to indicate that the figures of Voit, viz., *118 grams of albumin*, could be deviated from without any apparent inconvenience. Thus, in Rubner's experiments, but 38 grams of albumin were utilized in twenty-four hours for a period of three days, while in the experiments of Hirschfeld 35.4 grams of albumin were used per diem for a period of eight days. Other experimental corroborations offered by several other experimenters at about the same period might here be detailed, but the above are sufficient to prove that at least for periods varying from three to thirty days, the Voit figures of 118 grams of albumin, could be quite materially reduced.

Munk and Rosenheim, however, have offered, separately, experimental evidence that, at least in carnivorous animals, a decided reduction of the amount of albumin in the food for any great length of time, is followed by grave inanition.

Recently, Dr. Chittenden has revived the subject of the question of the minimal albumin requirements of the healthy man. Dr. Chittenden pursued his experiments on a large number of subjects, and extended them over a longer period of time. As in the experiments performed on myself, Chittenden found that the figures of Voit (118 grams of albumin) could be materially reduced without affecting the wellbeing of the individual.

In my paper already referred to it was contended that as long as an organism is in a state of nitrogen balance it is clear that neither the separate organs nor the entire system can be in disharmony as regards its nitrogen metabolism, and it follows from this that the quantity of albumin which is necessary to maintain an organism in a nitrogen balance, expresses at the same time the quantity of albumin which is at least necessary to repair the nitrogen waste of the fully developed organism.

These experiments are of interest to us not only from a physiologic and economic point of view, but also from a standpoint of practical therapeutics. Thus, for a number of years, I have made practical use of these facts where it is desired to reduce the albumin metabolism in Bright's disease, and where it is necessary to diminish excessive uric-acid production, which accompanies various diseases.

So, too, are these facts of importance where the degree of gastric albumin digestion is below the normal, and where it is desired to burden the stomach as little as possible with albuminous foodstuffs.

Likewise is this subject of significance in some cases of intestinal indigestion, with accompanying toxemic symptoms, although, unfortunately, our knowledge of the chemistry involved in this class of cases, is not as exact nor as precise as in cases of purely gastric origin.

Of significance also is the subject of minimal albumin quantity in connection with the criticism of the one or two meal a day fad, which is being so widely recommended by both lay and medical advisers. I say fad advisedly, for while there are some individuals with active digestion who thrive on two or even one meal each day, the average person, and particularly the great majority of stomach patients, fare much better where the food necessary in twenty-four hours is divided into a number of meals. In most stomach patients the question arises, how much or how little albumin should be ingested to meet satisfactorily the abnormal conditions of the gastric secretion and motility; and it is in these cases that the subject of minimal or maximal albumin quantity, and the number of meals necessary in twenty-four hours are of the utmost importance. A logical answer as to the number of meals we should take in twenty-four hours can only be given after making a thorough examination of the digestive and motor functions of the stomach; and it follows, therefore, that no absolute rule can be laid down which can be applied indiscriminately to every individual. It has been shown by experimentation that the average healthy individual digests the quantity of food required in twenty-four hours, more effectually and thoroughly, when it is divided into a number of meals than when it is taken at one time, and we also have learned by practical experience, as one would *a priori* expect, that in the stomach patient with weakened digestive action, this is even more true than in the healthy individual.

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[12] This highly important insertion was made possible by the arrival of the journal quoted while the proof of this article was being read.

[13] Hofmeister's Beitr. z. chem. Physiologie u. Path., vol. vii., p. 273; also Biochem. Centralblatt, vol. iv., p. 333.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Ueber die Groesse des Eiweissbedarfs beim Menschen. Deutsche med. Wochft., 1891, No. 48.

Further experimentation and observation will undoubtedly prove that the requisite albumin quantities necessary to maintain normal nitrogen equilibrium will more closely approach the figures of my experiments than those of Voit.

The occurrence of various digestive and metabolic abnormalities and deviations, both pathologic and physiologic, however, should warn us against an irrational acceptance and application of the minimal albumin figures.

I come in contact with scores of individuals who require large quantities of albumin to combat certain gastric abnormalities; and others, again, who likewise require an increased albuminuration in consequence of the existence of digestive and metabolic disturbances which make the normal fat and carbohydrate quantities inadmissible and injurious.

Again, there is another class of individuals which requires forced albumin feeding in consequence of the existence of some temporary or permanent condition of inanition.

It is evident, therefore, how fallacious an indiscriminate acceptance of the minimal albumin figures would be.

In fine, it may be said that while the experiments *on minimal albumin quantities prove that the average individual may and usually does eat too much albumin; and while probably 60 to 80 grams of albumin are nearer the normal requirement than the 118 grams of Voit, we should bear in mind that individual cases may require even much larger quantities of albumin than those called for in the Voit formula.*

THE FATIGUE OF COLD-BLOODED COMPARED WITH THAT OF WARM-BLOODED MUSCLE.*

FREDERIC S. LEE, Ph.D.
NEW YORK CITY.

Our knowledge of the physiology of muscle has been obtained chiefly through the study of cold-blooded animals. Especial stress has thus far not been laid on the fact that the muscles of certain animals are subjected throughout life to a moderately high and fairly constant temperature, while with others the temperature is usually much lower and variable.

The question has hardly been raised as to whether such different physical conditions connote different physiologic characteristics. *A priori* we might expect such to be the case, and the observations here reported actually demonstrate a difference in one respect, namely, in some of the physical phenomena of fatigue.

It is commonly believed that the main physical characteristics of the fatiguing, as distinguished from the fresh muscle, are a slowing of the whole process of contraction, which is manifested by a lengthening of the descending portion of the muscle curve; and a diminution in the lifting power of the muscle, which is manifested by a decrease in the height of the curve. This belief arose from a study of frog's muscle, where both these phenomena are pronounced.

Several years ago I called attention to the fact that the slowing in the process of contraction was shared in part by the phase of shortening of the muscle, as well as by that of lengthening. This phenomenon is manifested graphically on the ascending portion of the muscle curve by a progressive increase in the horizontal distance between the point of beginning and the apex and is most pronounced long before exhaustion has begun. It is far more prominent in turtle's muscle than in frog's, being there almost equally evident with the two other phenomena mentioned. At the same time I showed that a different picture is presented by the fatiguing muscles of the cat, inasmuch as with them neither the phase of shortening nor that of lengthening is slowed, as the lifting power is diminished. Here was a marked difference between the muscles of two cold-blooded animals on the one hand and those of a warm-blooded animal on the other.

The present paper deals with the question whether this difference is directly due to the temperature to which the muscles are customarily subjected.

Of cold-blooded animals, the frog and the turtle have again been studied, the gastrocnemius, the sartorius and the gracilis major of the former, and of the latter the coraco-antebrachialis profundus, the dorso-occipitis, the coraco-radialis superficialis, the pubo-tibialis, the ileo-fibularis, the ischio-caudali-tibialis. Some of these muscles are red and some white in color. In all cases the muscles were excised, suspended in a moist chamber, attached to a writing lever, subjected to a constant temperature, and stimulated electrically by single induction shocks, while the contraction curves were recorded by strictly isotonic methods. No fundamental differences were manifested by curarized and non-curarized muscles. In general, two temperatures were employed, a high and a low, of approximately 12 C. and 34 to 37 C., the latter being as high a temperature as can safely be employed without coagulating the muscle proteids. At the low temperature the customary phenomena of fatigue are present: Slowing of the phase of shortening, which is slight in the frog and pronounced in the turtle; slowing of the phase of lengthening, which is marked in both species; and diminution of the lifting power. The result is not fundamentally different when the muscles are subjected to the higher, practically mammalian, temperature. The two phases of the contraction process are quickened by the heat, but their slowing in fatigue is still present, phenomenally so in the turtle's muscles. These phenomena of fatigue are, therefore, in cold-blooded muscle independent of temperature. Furthermore, inasmuch as curarized and non-curarized muscles do not differ in these respects, the inference is justified that the phenomena in question belong to the muscle protoplasm rather than to the intrinsic nerve tissue.

Of warm-blooded animals, the cat, the rabbit, the white rat, the white mouse, the guinea-pig and the woodchuck have been studied, the muscles being the gastrocnemius and the extensor longus digitorum. It was found possible to treat the muscles in the same way as those of the cold-blooded animals. Since their nerves die very quickly, no curare was employed. Their muscle substance remains irritable for a sufficiently long time to enable excellent fatigue records to be obtained. At the temperature of the body there is a progressive dimi- in the height of the curves, with no lengthening of either the ascending or the descending portion. If, instead, the muscle be cooled to 12 C., and then fatigued, essentially the same result is obtained. There is, however, a broadening of the upper portion of the curves, indicating a tendency of the cooled tissue to linger in the contracted state; and this phenomenon, besides those above mentioned, is the most marked feature of the record of fatigue of the cooled mammalian muscle. While constantly present in the muscles studied, it is not sufficient to amount to a lengthening of the contraction process as a whole, with the single exception of the gastrocnemius of the white rat. In eight of the ten experiments performed with that muscle, careful measurement showed a slight lengthening, amounting in the maximum case to barely 0.7 of the original curve. This is almost a negligible quantity in comparison with the much greater lengthening exhibited by the muscles of both the frog and the turtle.

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In view of the above facts, the following conclusions seem to be justified:

1. There is a physiologic difference between cold-blooded and warm-blooded animals in the mode of fatigue of their excised, voluntary muscles.
2. One of the characteristic phenomena of fatigue of the excised voluntary muscles of cold-blooded animals is a pronounced slowing of the whole contraction process manifested by a lengthening of the muscle curve. This is most pronounced at low temperatures. It is diminished, but not obliterated, at high temperatures.
3. The excised voluntary muscles of most warm-blooded animals fatigue without a slowing of the contraction process as a whole. At low temperatures there is observable a broadening of the muscle curve, caused by fatigue, which, in individual cases, may result in a minute lengthening of the curve as a whole.
4. The above facts suggest that the general physiologic differences between the muscles of cold-blooded and of warm-blooded animals are not due to immediate differences of temperature. The existence of a homothermal condition and the constant subjection of the skeletal muscle system to a uniform temperature, seem to impress on that system distinctive physiologic peculiarities.

College of Physicians and Surgeons.

LANDRY'S PARALYSIS.

WITH REPORT OF CASE.*

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SAGINAW, MICH.

To the pathologist and clinical observer, acute ascending paralysis is a malady of more than ordinary interest. For nearly fifty years it has been known and studied, yet little light has been thrown on the essential pathologic process which is the basis of this remarkable disorder. Since Landry, in 1859, wrote his classic treatise on the subject, many efforts have been made to work out a solution of the perplexing problem, but with far from uniform results. Reasoning from the association of a flaccid paralysis, with preserved electric irritability and absence of trophic symptoms, Gowers advanced the theory of a toxin acting on the arborizations of the pyramidal fibers in the anterior horns of the spinal cord in a manner analogous to the effect of curare on motor-nerve terminations in muscle. This hypothesis, however, has never been reinforced by the conclusions of other investigators.

There are good grounds for believing that bacteria or the products of bacteria or toxic elements elaborated within the body having a selective action on motor neurons play an important rôle in the causation of this disease. Streptococci, staphylococci, diplococci and rod-like bodies resembling those of anthrax and typhoid have been noted by competent observers in the spinal cord in typical cases. It is quite conceivable that a variety of toxins may have in common the property of exerting a more or less profound influence on motor neurons, just as there are several well-known substances, organic and inorganic, which possess this singular power. The precise way in which these toxins affect the integrity of the motor elements has not been definitely determined. Considerable difference of opinion has always existed as to whether the motor structures in the cord or in the peripheral nerves were the parts primarily subjected to the morbid change. Some authorities, notably Ross, have maintained that the affection is a peculiar form of multiple neuritis. This view is based, not on the clinical manifestations, but on the finding of degenerative changes in the peripheral nerves in certain cases. Such findings, however, are by no means frequent, and in many cases the most careful scrutiny has failed to disclose any histologic alterations in either the peripheral nerves or spinal cord. Perhaps the most constant features found postmortem in typical cases are acute enlargement of the spleen and engorgement of the lymphatic glands, especially those of the mesentery, conditions which clearly indicate the invasion of the system by a toxic principle. As far as the nervous system is concerned, wherever the primary point of attack may be, it is evident that the pathologic change is an extremely subtle one; and of late the assumption has been gaining ground that in all typical cases this change affects the gray matter in the anterior horns of the spinal cord. It is probable, also, that in cases in which the toxicant is exceptionally virulent involvement of the anterior roots may follow, and a neuritic condition be induced in the peripheral nerves as a later and secondary consequence.

In the last score of years many important advances have been made in our knowledge of the physiology of the nervous system. In the light of this knowledge we are often enabled to reason from symptoms to the exact site of the pathologic process. The light gleaned from such knowledge in typical cases of acute ascending paralysis leads us to suspect that the motor cells of the anterior cornua of the spinal cord are primarily, and perhaps in most cases solely, concerned in the morbid action, and that with improved staining technic it will yet be possible to render apparent cellular changes which can not now be made manifest. It is probable that whatever changes the motor cells undergo are of a transitory character and of a nature to affect temporarily their function only, since the majority of patients who recover do so completely. Etiologic facts support in a striking way the theory of a toxemic state or dyscrasia as an essential and antecedent condition. By far the greater number of recorded cases have followed in the wake of sundry infectious diseases, local or systemic disturbances of a septic character, or have been preceded by wounds, more or less trifling, which had served as points of infection. Some cases have been ascribed by certain authors to exposure to wet and cold, especially when this exposure was associated with alcoholism, but the precise way such causes operate is difficult to determine if we are to believe Landry's paralysis to be separate and distinct from multiple neuritis. If such causes were potent factors, it would be quite easily understood why most cases have been observed in males in the third decade of life.

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So closely do many cases parallel multiple neuritis that it is not always easy to distinguish between the two disorders. In typical cases the diagnosis is based largely on negative evidence. Thus, in Landry's paralysis there is generally an absence of pain or tenderness along nerve trunks and of sensory impairment, trophic symptoms or electric alterations. The mode of onset of paralysis, too, is distinctive, being, as a rule, more abrupt, speedily completed and more profound, a distinguishing characteristic being the progressive implication of groups of muscles, commonly from below upward, and never beginning in both upper and lower extremities at the same time. Perhaps the cases which offer the greatest difficulty are those in which peripheral neuritis, to a greater or less degree, coexists with the spinal lesions. Such cases may have so much in common with multiple neuritis as to render a positive diagnosis practically impossible. Landry's paralysis rivals acute anterior poliomyelitis in the rapidity of its onset, although in the latter malady the affected areas, as a rule, are more circumscribed and the muscles are paralyzed *en masse* rather than in successive groups. The nature of the paralysis has a close correspondence in the two conditions, being in both flaccid, purely motor and with abolished reflexes, the sole distinguishing point of difference being the presence or absence of changes in electromuscular excitability.

A remarkable feature of this strange malady is its extremely high death rate, contrasting sharply in this respect with both multiple neuritis and acute anterior poliomyelitis. The recorded results of several groups of cases occurring in this country and in Europe give a mortality varying from 50 to 80 per cent. In the majority of cases a fatal result follows within a week or ten days. The incidence of bulbar symptoms is of grave significance, death, as a rule, occurring from interference with the cardiac or respiratory centers. The occurrence of mental symptoms is of evil omen, as indicating a system especially susceptible to toxic influence or a high grade of virulence of the toxic agent. Recessions of mental or bulbar symptoms are hopeful indications. The degree of rapidity of onset and the degree of completeness of the paralytic condition may be taken as a criterion of the intensity or the severity of the pathologic process, and consequently of the comparative gravity of a given case. Recovery in favorable cases is always slow, but frequently complete. In protracted cases; the paralyzed limbs may or may not undergo atrophy. Considerable uncertainty exists on this point; doubtless because of the rarity of the disorder so few opportunities have presented for studying the disease in its later stages. In two rather protracted cases I have seen, the patients had become quite emaciated, but the muscles had preserved, unchanged, their electric irritability.

The following case which had been under my observation for a period of two years well illustrates the characteristic onset and symptoms of Landry's paralysis, besides presenting some peculiar phases of the affection which are interesting and suggestive:

Patient.—J. B., a young man, aged 23, was born and reared on a farm near Saginaw, Mich.

History.—There is nothing particularly noteworthy in either his family or personal history. He had been a moderate smoker, but never addicted to intoxicating liquors in any form. At the age of 10 he had been operated on for appendicitis. Early in the summer of 1901 he was employed as fireman on the steamer *Mecosta*, sailing between Cleveland and Lake Superior ports. On June 26, 1901, while at Fort William, he, in common with the rest of the crew, was vaccinated by the health officer of that port. A very sore arm followed, with considerable swelling of the glands in axilla.

Course of the Disease.—In a few days he became subject to chilly sensations, alternating with transitory spells of fever. He suffered, too, from occasional attacks of vertigo, and from rather profuse sweatings. In spite of these symptoms, he continued at his work all the way down to Cleveland, which was reached ten days later. Here he began to experience in the right foot a peculiar feeling of weakness, which gradually ascended the limb to the hip. In a few hours a like sensation was felt in the left foot, and steadily progressed upward. Recognizing that something was seriously wrong, he entered the Marine Hospital in Cleveland. Next day the condition of weakness in the legs had deepened into absolute paralysis. The arms soon began to suffer in a similar fashion, the right being first affected from the fingers upward. Within a period of eighty-four hours all four extremities were rendered powerless, with flaccid muscles and abolished reflexes. The paralysis of the arms was slightly less profound than that of the lower limbs, but he was unable to feed himself or to use them for any purposes whatever. Up till this time, and during the further progress of the case, there was an entire absence of pain, of nerve-tenderness in any degree and of sensory symptoms of every kind. There was no headache or mental disturbance. The functions of the bladder were not interfered with. At no time were there any edema, glossy skin or epithelial changes; nor were the coldness and lividity of the limbs, so often seen in anterior poliomyelitis, ever noticed. Before the end of the first week symptoms appeared indicating extension to the medulla. The lips became paretic, and the tongue, palate and throat were likewise affected, so that speech and swallowing became seriously impaired. Diplopia appeared and eventually convergent strabismus and ptosis. The heart, too, began to manifest disturbance of its rhythm, with slight dyspnea and occasional spells of tachycardia. So deplorable was the condition of things that a telegram was sent to the patient's father, urging him to come at once if he wished to see his son alive. On the father's arrival, he decided to take the boy home, and accordingly a journey of nearly 300 miles was made by rail, with the patient on a cot in the baggage car. He stood the trip very well, and after being for a time at home entered the Saginaw Medical College Hospital as one of my clinic patients.

During the period of several weeks the case exhibited no material change in any respect. Except at the stage of onset, the temperature was not elevated, but occasionally showed a subnormal tendency. He had no pain and no particular distress aside from the difficulty in swallowing, and the utter inability to move a limb or to express himself by the use of speech. He slept well and took a fair amount of nourishment, but his muscles had markedly diminished in volume, more, perhaps, than could be accounted for by mere disuse, yet a response, more or less prompt, could everywhere be obtained to the faradic current. After two months the bulbar symptoms began slowly to recede, and two weeks later the dysphagia, dyspnea, difficulty of articulation and ocular derangements had wholly passed away. The paralytic condition of the limbs, however, remained unchanged. No contractures or pedal deformities had occurred. The first sign of motor activity appeared three months after onset, and consisted of slight flexor movements of the left arm, the limb latest to become affected. Similar movements were soon possible in the right arm, and a little later in the left leg; the right lower limb—the first to become paralyzed—lagged considerably behind its fellow. The flexor groups of muscles, it was observed, manifested evidence of returning power very largely in advance of the extensors, which had to be reinforced by mechanical and electric stimulation. This lack of correspondence between flexors and extensors produced a condition of wrist drop and foot drop highly suggestive of multiple neuritis.

Treatment.—In the general treatment of the case reliance was placed on strychnia, iron, arsenic, the hypophosphites and glycero-phosphate compounds.

Result.—The most gratifying results seemed to follow from a simple solution of the glycerophosphate of iron, together with moderate doses of strychnia. The return of muscular power, however, was an extremely protracted process, nearly eight months having elapsed from the time of onset before the patient was able to stand unaided, and fully ten months before he could walk more than a few steps without fatigue. After a year, his strength improved more rapidly, but nearly all of the second year was required in regaining something like his former vigor. In June, 1903, after two years of illness, he entered on the duties of a mail carrier over an R.F.D route, a vocation he has since followed satisfactorily in all weathers without the loss of a single day.

Previous to his illness his usual weight was 165 pounds; since his illness his weight has never exceeded 135 pounds. He manifests at times a previously unusual tendency to trip over words in speaking. He still exhibits slight weakness of ankle on both sides, most marked on right. The knee jerks have thus far failed to return.

MULTIPLE NEURITIS.

WITH REPORT OF FOUR CASES.*

DAVID I. WOLFSTEIN, M.D.
CINCINNATI.

The principal interest in neuritis centers in the fact that, on the one hand, it resembles mere functional affections like neuralgia, which is a disease of the sensory nerve characterized by pain in the course of the nerve, or in its end distribution; on the other hand, it may be so extreme and grave in its manifestations as to be confounded with even the most serious affection of the cord itself. The term neuritis implies that there is an inflammatory condition of the nerve affected, though the diseased condition is not necessarily inflammation in its usually accepted sense, but may also be a degeneration, though with a tendency toward repair.

A neuritis, of course, may be confined to a single nerve when its symptoms will be those of the nerve affected.

As a matter of experience, however, we are more interested in that form of neuritis which affects many nerves simultaneously. This form we call multiple neuritis or polyneuritis. As regards causation, multiple neuritis follows various factors, which may be grouped as follows:

First. Toxic cases, due to the action of the poison derived from within the body. The poisons that produce most of the cases that we meet with are alcohol and mercury and lead, and occasionally arsenic; of course, there are many other toxic substances which produce this condition, but which will not be discussed here, as we see them less frequently.

Second. The second group is due to some agent acquired or developed within the body, that is, infectious forms which may accompany or follow most of the acute infections. As an agent which can give rise to this condition besides many other acute infections, especial attention should be directed to influenza, gonorrhea and the puerperal state. As a matter of knowledge, it is well known that the disease sometimes takes an epidemic form, beriberi.

Third. A large class of cases is due to general diseased states of the body, of whose origin we are not informed, such as rheumatism, acute diabetes, anemia, tuberculosis, syphilis, etc.

Fourth. There is another group of cases which followed exposure to cold or developed apparently without determinable cause.

As a type of neuritis due to alcohol, let me give the history of the following case:

Case 1.—Mrs. M., a young woman, aged about 30 years, who had been suffering for three or four months previously with very severe pains and with growing weakness in the extremities, called me to see her at a time when she was bedridden and unable to move the feet. She was very emaciated, her digestion was very much impaired, examination of the viscera revealed nothing abnormal except the heart action, which was very much accelerated, with very weak pulse. The pupils reacted promptly. There was no involvement of any of the cranial nerves. She complained greatly of extreme sensitiveness, but there was little numbness and tingling, though previously she had complained much of these symptoms. Pressure along the course of the large nerve trunks was painful. The muscles were relaxed and flabby, both of the arms and legs. The wrists and feet presented the well-known drop condition. The wrist drop was very marked, as was also the foot drop. As is well known, this wrist drop is due to a paralysis of the extensor muscles. The legs were very much emaciated and power was practically abolished. The paralysis was so complete in the lower extremities, with an inflammation of the spinal cord, that myelitis might have been suspected. A negative symptom of great importance was the absence of any interference with the function of the bladder or rectum, and another negative symptom, to which Star calls attention, was the absence of pain or anesthesia about the trunk. As is well known in the various forms of disease of the cord, like myelitis, or locomotor ataxia, such disturbance of sensation on the trunk is present frequently.

In making the diagnosis, the family history was taken into consideration, and a most shocking state of affairs was elicited. The husband was a confirmed drunkard and had induced his wife to follow in his evil tendency, and, in fact, a little child of this couple had also been taught to drink now and then. The patient had been drinking steadily for two or three years previous to the time I saw her. She finally developed a condition of mental confusion and uncertainty as to her whereabouts, and exhibited a certain hebetude of mind which is a very frequent accompaniment of severe forms of multiple neuritis, especially of the alcoholic type, and is known as Korsakoff's insanity.

There was great loss of memory of recent occurrences and much insomnia; later there were hallucinations of sight and hearing. The knee jerks were gone, as were also the ankle jerks. The paralysis began in the feet and legs, extending upward rapidly, and soon involved the arms and forearm. The muscles did not respond to the Faradic current, and when tested with the galvanic current showed the presence of degeneration.

Only a strong current elicited a contraction. There was great sensitiveness to manipulation, and the tactile sense was very much blunted. This case was so extreme and the general condition of the patient so depraved that all attempts at treatment were futile and death ensued, due to collapse.

Let me now give you an example of the milder form, in which the toxic agent was the poison of influenza, under the head of Group 2:

Case 2.—Mr. B. came to his physician's office complaining of great pain in the lower extremities, which had not yet become severe enough to prevent him from walking. This pain in the course of two or three days increased and there was pro preceded by wounds, more or less trifling, which had served as points of infection. Some cases have been ascribed by certain authors to exposure to wet and cold, especially when this exposure was associated with alcoholism, but the precise way such causes operate is difficult to determine if we are to believe Landry's paralysis to be separate and distinct from multiple neuritis. If such causes were potent factors, it would be quite easily understood why most cases have been observed in males in the third decade of life.

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History.—There is nothing particularly noteworthy in either his family or personal history. He had been a moderate smoker, but never addicted to intoxicating liquors in any form. At the age of 10 he had been operated on for appendicitis. Early in the summer of 1901 he was employed as fireman on the steamer *Mecosta*, sailing between Cleveland and Lake Superior ports. On June 26, 1901, while at Fort William, he, in common with the rest of the crew, was vaccinated by the health officer of that port. A very sore arm followed, with considerable swelling of the glands in axilla.

Course of the Disease.—In a few days he became subject to chilly sensations, alternating with transitory spells of fever. He suffered, too, from occasional attacks of vertigo, and from rather profuse sweatings. In spite of these symptoms, he continued at his work all the way down to Cleveland, which was reached ten days later. Here he began to experience in the right foot a peculiar feeling of weakness, which gradually ascended the limb to the hip. In a few hours a like sensation was felt in the left foot, and steadily progressed upward. Recognizing that something was seriously wrong, he entered the Marine Hospital in Cleveland. Next day the condition of weakness in the legs had deepened into absolute paralysis. The arms soon began to suffer in a similar fashion, the right being first affected from the fingers upward. Within a period of eighty-four hours all four extremities were rendered powerless, with flaccid muscles and abolished reflexes. The paralysis of the arms was slightly less profound than that of the lower limbs, but he was unable to feed himself or to use them for any purposes whatever. Up till this time, and during the further progress of the case, there was an entire absence of pain, of nerve-tenderness in any degree and of sensory symptoms of every kind. There was no headache or mental disturbance. The functions of the bladder were not interfered with. At no time were there any edema, glossy skin or epithelial changes; nor were the coldness and lividity of the limbs, so often seen in anterior poliomyelitis, ever noticed. Before the end of the first week symptoms appeared indicating extension to the medulla. The lips became paretic, and the tongue, palate and throat were likewise affected, so that speech and swallowing became seriously impaired. Diplopia appeared and eventually convergent strabismus and ptosis. The heart, too, began to manifest disturbance of its rhythm, with slight dyspnea and occasional spells of tachycardia. So deplorable was the condition of things that a telegram was sent to the patient's father, urging him to come at once if he wished to see his son alive. On the father's arrival, he decided to take the boy home, and accordingly a journey of nearly 300 miles was made by rail, with the patient on a cot in the baggage car. He stood the trip very well, and after being for a time at home entered the Saginaw Medical College Hospital as one of my clinic patients.

During the period of several weeks the case exhibited no material change in any respect. Except at the stage of onset, the temperature was not elevated, but occasionally showed a subnormal tendency. He had no pain and no particular distress aside from the difficulty in swallowing, and the utter inability to move a limb or to express himself by the use of speech. He slept well and took a fair amount of nourishment, but his muscles had markedly diminished in volume, more, perhaps, than could be accounted for by mere disuse, yet a response, more or less prompt, could everywhere be obtained to the faradic current. After two months the bulbar symptoms began slowly to recede, and two weeks later the dysphagia, dyspnea, difficulty of articulation and ocular derangements had wholly passed away. The paralytic condition of the limbs, however, remained unchanged. No contractures or pedal deformities had occurred. The first sign of motor activity appeared three months after onset, and consisted of slight flexor movements of the left arm, the limb latest to become affected. Similar movements were soon possible in the right arm, and a little later in the left leg; the right lower limb—the first to become paralyzed—lagged considerably behind its fellow. The flexor groups of muscles, it was observed, manifested evidence of returning power very largely in advance of the extensors, which had to be reinforced by mechanical and electric stimulation. This lack of correspondence between flexors and extensors produced a condition of wrist drop and foot drop highly suggestive of multiple neuritis.

Treatment.—In the general treatment of the case reliance was placed on strychnia, iron, arsenic, the hypophosphites and glycero-phosphate compounds.

Result.—The most gratifying results seemed to follow from a simple solution of the glycerophosphate of iron, together with moderate doses of strychnia. The return of muscular power, however, was an extremely protracted process, nearly eight months having elapsed from the time of onset before the patient was able to stand unaided, and fully ten months before he could walk more than a few steps without fatigue. After a year, his strength improved more rapidly, but nearly all of the second year was required in regaining something like his former vigor. In June, 1903, after two years of illness, he entered on the duties of a mail carrier over an R.F.D route, a vocation he has since followed satisfactorily in all weathers without the loss of a single day.

Previous to his illness his usual weight was 165 pounds; since his illness his weight has never exceeded 135 pounds. He manifests at times a previously unusual tendency to trip over words in speaking. He still exhibits slight weakness of ankle on both sides, most marked on right. The knee jerks have thus far failed to return.

MULTIPLE NEURITIS.

WITH REPORT OF FOUR CASES.*

DAVID I. WOLFSTEIN, M.D.
CINCINNATI.

The principal interest in neuritis centers in the fact that, on the one hand, it resembles mere functional affections like neuralgia, which is a disease of the sensory nerve characterized by pain in the course of the nerve, or in its end distribution; on the other hand, it may be so extreme and grave in its manifestations as to be confounded with even the most serious affection of the cord itself. The term neuritis implies that there is an inflammatory condition of the nerve affected, though the diseased condition is not necessarily inflammation in its usually accepted sense, but may also be a degeneration, though with a tendency toward repair.

A neuritis, of course, may be confined to a single nerve when its symptoms will be those of the nerve affected.

As a matter of experience, however, we are more interested in that form of neuritis which affects many nerves simultaneously. This form we call multiple neuritis or polyneuritis. As regards causation, multiple neuritis follows various factors, which may be grouped as follows:

First. Toxic cases, due to the action of the poison derived from within the body. The poisons that produce most of the cases that we meet with are alcohol and mercury and lead, and occasionally arsenic; of course, there are many other toxic substances which produce this condition, but which will not be discussed here, as we see them less frequently.

Second. The second group is due to some agent acquired or developed within the body, that is, infectious forms which may accompany or follow most of the acute infections. As an agent which can give rise to this condition besides many other acute infections, especial attention should be directed to influenza, gonorrhea and the puerperal state. As a matter of knowledge, it is well known that the disease sometimes takes an epidemic form, beriberi.

Third. A large class of cases is due to general diseased states of the body, of whose origin we are not informed, such as rheumatism, acute diabetes, anemia, tuberculosis, syphilis, etc.

Fourth. There is another group of cases which followed exposure to cold or developed apparently without determinable cause.

As a type of neuritis due to alcohol, let me give the history of the following case:

CASE 1.—Mrs. M., a young woman, aged about 30 years, who had been suffering for three or four months previously with very severe pains and with growing weakness in the extremities, called me to see her at a time when she was bedridden and unable to move the feet. She was very emaciated, her digestion was very much impaired, examination of the viscera revealed nothing abnormal except the heart action, which was very much accelerated, with very weak pulse. The pupils reacted promptly. There was no involvement of any of the cranial nerves. She complained greatly of extreme sensitiveness, but there was little numbness and tingling, though previously she had complained much of these symptoms. Pressure along the course of the large nerve trunks was painful. The muscles were relaxed and flabby, both of the arms and legs. The wrists and feet presented the well-known drop condition. The wrist drop was very marked, as was also the foot drop. As is well known, this wrist drop is due to a paralysis of the extensor muscles. The legs were very much emaciated and power was practically abolished. The paralysis was so complete in the lower extremities, with an inflammation of the spinal cord, that myelitis might have been suspected. A negative symptom of great importance was the absence of any interference with the function of the bladder or rectum, and another negative symptom, to which Star calls attention, was the absence of pain or anesthesia about the trunk. As is well known in the various forms of disease of the cord, like myelitis, or locomotor ataxia, such disturbance of sensation on the trunk is present frequently.

In making the diagnosis, the family history was taken into consideration, and a most shocking state of affairs was elicited. The husband was a confirmed drunkard and had induced his wife to follow in his evil tendency, and, in fact, a little child of this couple had also been taught to drink now and then. The patient had been drinking steadily for two or three years previous to the time I saw her. She finally developed a condition of mental confusion and uncertainty as to her whereabouts, and exhibited a certain hebetude of mind which is a very frequent accompaniment of severe forms of multiple neuritis, especially of the alcoholic type, and is known as Korsakoff's insanity.

There was great loss of memory of recent occurrences and much insomnia; later there were hallucinations of sight and hearing. The knee jerks were gone, as were also the ankle jerks. The paralysis began in the feet and legs, extending upward rapidly, and soon involved the arms and forearm. The muscles did not respond to the Faradic current, and when tested with the galvanic current showed the presence of degeneration.

Only a strong current elicited a contraction. There was great sensitiveness to manipulation, and the tactile sense was very much blunted. This case was so extreme and the general condition of the patient so depraved that all attempts at treatment were futile and death ensued, due to collapse.

Let me now give you an example of the milder form, in which the toxic agent was the poison of influenza, under the head of Group 2:

CASE 2.—Mr. B. came to his physician's office complaining of great pain in the lower extremities, which had not yet become severe enough to prevent him from walking. This pain in the course of two or three days increased and there was progressive loss of power until patient was unable to walk and resorted to the bed. He was then referred to me about three weeks later, and when I saw him the legs could not be moved. There was much pain along the thigh and calves, the skin was very sensitive to touch, the patient could not flex the feet or the legs, and in attempting to extend or stretch the feet the very slightest pressure would overcome the effort.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

The knee jerks were very feeble, but the muscles were not as yet atrophied; the distribution following the rule of multiple neuritis was quite symmetrical. The upper extremities were not involved. The patient was afflicted with an aortic lesion and developed at the same time a pneumonia, which ran a very irregular course. It was of the bronchopneumonia type and lasted about three weeks. There was no definite crisis. The neuritis ran a very favorable course, the knee jerks reappeared after about six weeks, although power and ability to move the legs slightly appeared before the knee jerks were re-established. It is rather peculiar for multiple neuritis following grip that the sensory symptoms are more pronounced than the motor symptoms and there is complete recovery usually within six weeks. The patient was able to move about, had perfect control of the legs, and there was no marked tendency to ataxia, although in the first weeks of my observation of the case there was some incoördination of movement. These cases of multiple neuritis following grip have been described by several writers, among them Mills and Star.

The third case which I wish to describe belongs to the third group, and was due to some condition of lowered nutrition of undetermined nature.

Case 3.—Miss W. was referred to me by Dr. Belt, of Milford, Ohio. Six months previous to the time I saw her she had had pain in the epigastrium and was treated for what was evidently ulcer of the stomach. There had been pain, tenderness over the epigastrium and also over the dorsal spine, vomiting, increased acidity and emaciation. Under appropriate medical treatment this condition was recovered from, but the patient was left in a very profoundly anemic state. She was brought to the city in a pitiable condition of exhaustion with very marked hysterical mental condition. She was extremely emaciated, the arms were but slightly involved as regards movement, although she complained of great pain and marked sensory disturbance, burning and tingling and numbness in the upper extremities.

The legs were completely paralyzed, the knee jerks and ankle jerks could not be obtained. The patient was unable to move the legs at all except from the hips, although there was a slight movement in the toes. There was no disturbance of function of bladder or rectum. There was no pain or anesthesia over the trunk. Tactile sensation was diminished over the legs on both sides, but not over the thighs to any extent, but pain and temperature sense were intact.

There was some loss of muscle sensation, that is, she did not know the position of the big toe when first seen. The patient was under treatment at Christ Hospital for three months and on forced feeding and very careful electric treatment, in conjunction with tonics and, of course, rest, a certain amount of power returned.

The muscles were still flabby and wasted, the response to the interrupted current was still quite feeble, and the galvanic current produced a slow wavelike response, indicating that recovery from degeneration had not yet persisted very far.

After a further three months the patient was so far recovered that she could walk around the room, with the aid of crutches, and weight had increased very much; all pain had disappeared. Her gait was very typical for multiple neuritis. On account of the weakness of the peronei and the anterior tibialis, she lifted the whole foot as if she were tripping over her own toes, so-called steppage. She is at present almost fully recovered. This case was so extreme that a suspicion of a cord lesion due to either pernicious anemia or to subacute inflammation of the cord was entertained; however, the character of the sensory disturbance, the evidence of slight power of movement and the preservation of bladder and rectum functions, combined with other symptoms, enabled me to exclude any other condition than a grave multiple neuritis.

The fourth case was one which I saw with Dr. E. W. Mitchell of Cincinnati, in consultation.

Case 4.—This was a little boy about 8 years old. There had been no previous history of infectious disease or of any other illness so far as known. The condition came on more or less acutely without any fever. The child complained bitterly of pain in the legs and arms, and pressure along the thigh and calves elicited shrieks. Attempts to move the legs produced great pain; the reflexes at the knee were absent. There was no evidence of any swelling of the joint, no redness, no fever. Acute rheumatism could be readily excluded.

The little patient was unable to walk, and I was informed that only the slightest motion was possible with the legs, though the arms were not involved to nearly the same degree. The involvement of both extremities, as well as lesser degree of involvement of the arms, the absence of marked wasting, the intact state of the sphincters and the absence of disturbance of sensation, except that of hypersensitiveness, enabled me to rule out in the case of this little child infantile spinal paralysis, both of the cord and of the brain, as well as myelitis. The disturbance was too marked, and the pain on pressure and on attempting movement was too pronounced to countenance a diagnosis of hysteria. I mention this because not infrequently in children we encounter cases of hysteria where no condition of paralysis is simulated.

I have quoted these four cases as fairly illustrating the different types of multiple neuritis. I do not wish to make this paper unduly long, but would like to call attention to some points in the differential diagnosis.

Neuralgia could generally be excluded, as the symptoms are sensory in character and never lead to paralysis, though sometimes there is inhibition of movement on account of pain, but it is not persistent. In nearly all cases of neuritis, even of single nerves there is an involvement of the motor fibers of the same degree as the sensory fibers. The presence of hyperesthesia and various forms of paresthesia is quite marked. The distribution of the anesthesia in well-developed cases corresponds to the distribution of the affected nerves as they course toward their periphery, and is unlike the distribution of the anesthesia of the lesions in the cord which occupies distinct zones or segments. The symmetrical distribution on the two limbs is also quite characteristic. Time is too short to take up the peculiarities in the distribution of the paralysis. This may come on quite gradually or so rapidly that within a couple of weeks the patient is helpless.

In some cases it does not advance to extreme feebleness. The extensors of the wrist and fingers and the peronei and the anterior tibial muscles in the legs are muscles first affected. It is only in very severe cases that the diaphragm or the facial muscles are involved. In my alcoholic case, above quoted, toward the end there was paralysis of the muscles concerned in swallowing. In children we must be careful to exclude infantile spinal paralysis, so-called anterior poliomyelitis. It must be remembered that as between myelitis and neuritis, if the attention be directed to the following points, the two need not be confused; in neuritis the function of bladder and rectum are maintained, girdle sensation is very rare, bed sores and cystitis likewise.

In neuritis a paralysis begins in the legs and forearms at the same time, and usually does not extend to the thighs and arms and rarely touches the trunk. It is only in the fatal cases that the abdominal and respiratory muscles are involved.

In neuritis the anesthesia is chiefly observed in the hands and feet, in the forearms and legs, and rarely reaches the arms and thighs. Tenderness in the nerves and muscles of the extremities belongs to neuritis, but not to myelitis. It ought not to be difficult to separate neuritis from locomotor ataxia. In practice it will be well to remember neuritis when attempting to establish positively the diagnosis of acute articular rheumatism, but in the latter the febrile course and characteristic appearance of the joints and the well-known tendency to the fugacity of the symptoms ought to prevent any confusion.

PROGNOSIS.

Except in the acute, grave cases, the prognosis is relatively very good. Of course, in those who are steeped in alcohol, lead or arsenic, with impaired constitutions, we can hope for less complete or no recovery. With patience and care a favorable prognosis may be pronounced in most cases of multiple neuritis.

TREATMENT.

Rest and appropriate nutrition and the removal of exciting cause wherever possible are the principal indications. In the early stages, when the disease has become well established, Star thinks well of the salicylates. The hyperesthesia should be combated by wrapping the parts in wool or light bandages or by applying soothing applications. Malaria, syphilis and lead require the usual treatment.

In alcoholics much skill is required in controlling the amount of alcohol that should be given and determining when it should be withdrawn. Where there is any chronic condition I agree with Star that we obtain the best results from strychnin, arsenic and the glycerophosphates, gentle massage, warm baths, electricity, and only the galvanic current should be used. The object of these latter remedies is, in the first place, to prompt a repair of the diseased nerves and to keep the muscles in a state of good nutrition while such repair is taking place.

The object of this paper has been to call the attention of the profession more particularly to this form of inflammation or degenerative changes in the nerves and to point out in a brief way the characteristic features of multiple neuritis as distinguished from disease of the spinal cord.

DISCUSSION

ON PAPERS OF DRS. M'GREGOR AND WOLFSTEIN.

Dr. H. T. Pershing, Denver, reported briefly two cases which he saw recently and which had some bearing on the subject. In one case the patient began to have the unmistakable symptoms of multiple neuritis affecting both legs below the knees, with severe pain, preventing sleep at night, and gradual weakening of the muscles, with no disturbance of the bowels or bladder, and no affection of the trunk or of the arms. It was recognized as a case of multiple neuritis, but it was quite difficult to find the cause. The man was a metallurgist and had invented a process for the separation of different kinds of ore. That led his physicians to suspect that arsenic might be the cause of the symptoms, especially as the arms were not involved and the pain was prominent. Examination of the urine showed that the man constantly eliminated a small quantity of arsenic. Very small doses of iodid of potassium seemed markedly to increase the pain, so that he objected very decidedly to taking it. The family physician and Dr. Pershing both thought at first that this might be imaginary, but they came to the conclusion that it was not, and that the increase in the pain could be explained as Gowers explains the aggravation of the symptoms due to mercurial poisoning, as when iodid is given it makes the metal more soluble. This man made a complete recovery, although he had to be kept away from the ores that contained arsenic. In the other case, a man whose character was in general irreproachable, during the first week in July did an unusual amount of muscular work; he carried some boards, sweated profusely, and was rather exhausted by the heat. On the Fourth of July he was with some friends, and they drank a considerable quantity of beer, which he said was stale, and ate some lobster. He had a very severe attack of acute indigestion; he vomited and showed every indication of ptomain poisoning, and the prostration was great. Before he recovered from that attack, which lasted two or three days, he noticed a weak, heavy feeling in the legs, which gradually developed into numbness and very pronounced weakness, so that about two weeks later, when Dr. Pershing saw him in consultation, he had the typical symptoms of multiple neuritis, and was barely able, with the greatest difficulty and pain, to walk about the room. The arms were slightly affected and there was some paralysis of the wrists and fingers. The prognosis seemed favorable and he made a steady and complete recovery. About a year later the knee jerks were normal.

Dr. D. R. Brower, Chicago, said that in acute Landry's paralysis his observations have led him to suppose that the great majority of cases so diagnosed are cases of multiple neuritis. He thinks that too much importance is sometimes attached to the condition of the bladder and rectum in differentiation. He has seen cases in which for a time control of both of these functions was lost, and in which the subsequent history made the question of diagnosis of multiple neuritis very easy. This is especially true of cases in which there is some mental disturbance. While it is undoubtedly the usual condition that the motor and sensory symptoms go hand in hand, yet there are cases in which there is an entire absence of sensory symptoms, and these cases are by no means rare. There is a form of multiple neuritis that requires more attention on the part of the profession than it has so far received; that is beriberi. In the republic of Panama in December, 1904, it was one of the principal causes of death, and it prevails to a very large extent in all our recent territorial acquisitions. Dr. Brower has seen a few cases in which recovery seems to have been promoted by large doses of quinin in connection with strychnia. The cause of death in Landry's paralysis, as in multiple neuritis generally, is circulatory and respiratory failure, and he thinks that all the cases should be very carefully watched with reference to these important functions and timely aid given. The next important principle in treatment is careful attention to elimination.

Dr. William House, Portland, Ore., asked Dr. Wolfstein whether the use of antitoxin has increased or decreased the number of cases of postdiphtheritic neuritis.

Dr. H. G. Brainerd, Los Angeles, asked Dr. Wolfstein whether or not in those unfortunate cases which resemble Korsakow's insanity he noted any falsification of memory, as well as loss of memory. The difficulty of making a diagnosis is great in certain cases. Dr. Brainerd remembered watching with interest a case in which there was a question as to whether or not it was ordinary chronic neuritis or leprous neuritis. It was nearly a year before it was decided that it was a case of leprous neuritis. Dr. Brainerd watched the case for a period of six or seven years, during which time the disease did not make much progress, and no other evidence of leprosy was shown. Recently he had under his care a patient with multiple neuritis, not a young man, whose occupation, that of a cement contractor, kept him out of doors most of the time. He was of such rugged build that he would not be supposed to be susceptible to changes in the weather. For several years he had been in the habit of using bromo seltzer daily. When Dr. Brainerd first saw him, two weeks after the beginning of the attack, his face was purple and his finger nails were blue. As there had been no unusual exposures to inclement weather, and he could learn of no other cause, Dr. Brainerd believes that the toxic effects of the bromo seltzer were the cause of the neuritis. Recently he saw a case of neuritis in a Baptist deacon just past middle life, and who, from his connection with the church, might be supposed to be beyond reproach. Thinking that the man might be in the habit of taking something containing arsenic or alcohol, Dr. Brainerd asked if he were using anything of the kind, at which the family became very indignant, but the man finally admitted that he was in the habit of taking a bottle of vinegar bitters every day or two, and had been for a period of many months. This was undoubtedly the cause of his neuritis.

Dr. H. A. Tomlinson, St. Peter, Minn., called attention to the fact that bromo seltzer is said to contain acetanilid.

Dr. Robert McGregor, Saginaw, Mich., thinks it is desirable that such cases should be reported and postmortem findings recorded wherever possible. The systematic study of a satisfactory series of cases would enable physicians to know more clearly the line of demarcation between Landry's paralysis and multiple neuritis. It is, of course, absurd to suppose that cases of this character should conform to any conventional type. There will be considerable variations, but there are three points which Dr. McGregor believes are fairly constant and which serve as guides in the diagnosis of any form of Landry's paralysis: 1, The toxic element as a causative factor; 2, the implication of the motor elements of the spinal cord; 3, rapidly ascending paralysis and, in rare cases, descending in character—a paralysis which is flaccid and purely motor and in which the electric irritability of the muscles is little, if at all, changed.

Dr. David Wolfstein said that a diagnosis of Landry's paralysis should not be made simply because of the severity of the symptoms. He declared that it is unfortunate that the profession has departed so far from the ideas of Landry. If one would stick to Landry's original definition of the disease as one involving only the motor nerves and rapidly ascending, very often occurring in cases in which there is no disturbance of sensation, there would be less confusion. Dr. Wolfstein said that Dr. Brower's criticisms are hardly justified. In these cases of neuritis accompanied by insanity there was no actual loss of function of the bowels or bladder. In reply to a question, he stated that there is no doubt that since the use of antitoxin the number of cases of postdiphtheric paralysis have greatly decreased.

PHYSICIANS AND PROPRIETARY MEDICINES.

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There are several particularly objectionable features connected with the proprietary medicine evil, to which [illegible] desirable to call attention with a view to securing [illegible]operation of the great body of practicing physi[illegible]n obliterating them so far as possible. Every one [illegible]nowledges that a great number of secret proprietary medicines are utterly worthless and, in fact, harmful; hence all preparations which do not emanate from thoroughly reputable firms should be viewed with reserve—if not actual suspicion—until they have been examined by competent, unbiased men.

It should also be remembered that the testimonials given are often of questionable value, because physicians and professors in certain medical colleges may sometimes be induced to give testimonials on insufficient knowledge. Finally, attention should be called to the well-known fact that mystery exerts a strong influence on the average mind, and a form of mystery may be said to be the chief stock in trade of many exploiters of the clap-trap compounds, now widely used.

While there are many manufacturers who are doing valuable work—and to them this criticism does not apply—there are hundreds of men, anxious to occupy the profitable field of proprietary medicine manufacturing or exploiting, but wholly lacking the ability and desire to pursue original research, who merely resurrect obsolete remedies, dress them anew in garb and name, and claim for them properties as marvellous as those of Aladdin's lamp.

Others use some well-known *substance, acetanilid,* for instance, as a basis for compounds with pseudo-scientific names, claiming entire originality and extraordinary therapeutic properties for their products. It is truly amazing that these compounds should have attained such wide use by physicians in view of their potency for harm and the extreme simplicity of the acetanilid test.

Manifestly, every physician owes it to himself and to his patients to recommend only such preparations as are attested by men whose reputation for solid attainment and integrity is beyond question.

It is hardly necessary to say that no one is justified in prescribing any remedy before he has satisfied himself of its clinical nature and pharmacologic action, so far as can be learned. There are so many trained clinicians in the hospitals who have excellent facilities for intelligent tests—so many pharmacologists with elaborate equipment, devoting all their time to laboratory investigestations, that there is no excuse for the manufacturer seeking testimonials from those who are not in a position properly to test the effects and efficacy of so-called remedies.

It is perhaps in regard to the third point, that of mystery, that the warning is to be most strongly presented. The busy practitioner is unable to keep pace with the rapid additions to the terminology of the various branches of medical science, such as the Ehrlich theory of immunity, hence he becomes accustomed to reading articles by men of repute, which may not be perfectly intelligible to him, and later he accepts with equal readiness the statements of nostrum vendors, who, adopting the terminology but not the meaning of science, give pretended concise descriptions of the methods of preparation of their own wares, in mere word jumbles, intended to impress the unwary, while the facts which are the essential ones, viz., the success of the medicine in the treatment of disease, are stated with more apparent child-like simplicity than veracity. To show how this truly astounding fraud is frequently perpetrated, I mention the following:

Circulars of three proprietary remedies, which have been widely distributed among physicians, and which pretend to give most concise details of preparation, involving processes of metabolism, actions of enzymes. etc., were submitted to three well-known physiologic chemists with a request for a perfectly simple explanation of the reading matter. The answers were essentially similar in each case, and were to the effect that the pretended concise descriptions were largely mere word jumbles devoid of meaning, or else a tissue of falsehood.

Can the average physician discern truth in that which is false or meaningless to the expert?

How the conspirators must laugh at the ease with which they can dupe educated men with gibberish, while pretending to appeal to their profundity!

It is as easy to use intelligible and simple language in describing the method of preparing an article as it is in stating clinical results, and every physician should refuse to be influenced by an advertisement which he can not readily understand, and which for that very reason may be making a bid for our too ready credulity.

Medical Ethics.—The dissatisfied persons who wish to discharge their medical attendant and employ you, will sometimes contend that the rules relative to taking charge of patients, recently under care of another physician, are harsh and unjust, and peculiar to the medical profession. Neither of these statements are true, for our custom is identical with that which prevails everywhere among all classes of people, which requires the formal discharge of the old employé before a new one can take his place. Besides, no person, whether menial, mechanic or physician, can fill a vacancy till one exists.—Hart, in *Journal of Kansas Medical Society.*

THE NOMENCLATURE OF PROPRIETARY MEDICINES. THE CRUX OF THE SITUATION.*

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It is related of an old-time country practitioner, in a southern state, who not only had faithfully served the community in attending to the first arrivals, but also had usually been called on to name the little newcomers, that his patience finally became so exhausted that when appealed to in an especially urgent case, he petulantly retorted, "Oh name the twins Belshazzar and Beelzebub!" "Oh pa!" gleefully shouted the mother, "the doctor has named the babies Belshazzar and Beelzebul!" "Wal!" responded the fond father, "if the kids be only as good as their names they will be all right!"

The incident may or may not be true, as it may or may not have any bearing on the naming of proprietary medicines. Let us see. The names looked imposing and mysterious, they had a suggestive and familiar sound, possessed a peculiar euphony, and in this case were thought proper names because the persons using them did not know what they meant or what they stood for.

MULTIPLICATION AND SIMULATION.

Is there any difference in the methods of naming the vast majority of proprietary medicines? Take a few examples:

Aseprol
Aseptol
Aseptolin
Aseptin

Albargin
Actol
Argentamin
Argentol
Argonin
Collargol
Ichtargan
Itrol
Largin

Hematin
Hematogon
Hemoferrogen
Hemoferrin
Hemoform
Hemogallol
Hemol
Hemorrhol
Hemostate
Hemotrophine

Lyptol
Lysol
Lysetol
Lycorin
Lygosin
Lysidin
Lysitol
Lysoform

Bromalin
Bromamid
Bromolein
Bromidia
Bromipin
Bromol
Bromopyrin
Bromosin
Bromphenol

Dermatin
Dermatol
Dermogen
Dermol
Dermazon

Iodipin
Iodocrol
Iodoformal
Iodoformine
Iodoformogen
Iodoformsalol
Iodogenol
Iodolen
Iodolin
Iodophenin
Iodosin
Iodosolvin
Iodothyrin

Ferratin
Ferratogen
Ferrhemin
Ferrinol
Ferripton
Ferroleum
Ferropyrin
Ferrosol

Salacetol
Salacetin
Salifebrin
Saliformin
Saligallol
Saliphene
Salit
Salophene
Salochinin
Salocoll
Salocreol
Salol

Tannalbin
Tannalborin
Tannapin
Tannformal
Tannigen
Tannipyrin
Tannoform
Tannochrom
Tannocoll
Tannopin
Tannosol

LACK OF SYSTEM.

Is there anything to suggest that a system or plan has been followed in naming these any more than in the naming of apartment houses, sleeping cars or breakfast foods? Names of the latter often rival those of proprietary medicines, the following examples having been observed recently: A house called "Eudoxin," for a well-known synthetic; "Quantzinteco-matzin," the name of a sleeping car on the Oregon Short Line, might be a new name for hexamethylene tetramin, and "Apetizo," the iron food, may be mistaken for apetol, the strengthener that strengthens, a wonderful discovery composed of *Nux vomica, Gentiana purpurea, Calumba jatcorrhiza, Quassia amara lignum, Prunus virginiana, Prinus verticillatus, Simaruba amara, Spiræa tomentosa, Cinchona rubrum, Sumbul moschatus,* aurantii cortex, aromatics, vinum xericum fortior; the "tonic that tones"; that "gives birth to an appetite"; made in Danbury, Conn., which in former times was famous through "Newsman" and as the home of "Synthetic Myristica," but is now devoted to the exploitation of the medical profession through a medical journal with half a dozen anonymous pseudo-chemical companies on the side.

CONFUSION WORSE CONFOUNDED.

Besides these there are preparations entirely distinct in character, with names almost similar, e. g.:

Mercauro, Mercurol, Mercuriol.
Euphorine and Europhene.
Papain and Papin
Benzosol and Benzozon.
Glycozone, Hydrozone and Liquozone.

The last illustrious trio have demonstrated the dangers to the manufacturers in selecting names in the present haphazard, slipshod manner. The proprietor of the first two of the three alleges that the name of liquozone is unwarranted and misleading, and liable to confusion with his own. The liquozone proprietors charge business rivalry as the sole motive for the accusations against their famous germicide

"Normalin" is a serum preparation of arsenic, administered internally in teaspoonful doses, for which formalin is liable to be dispensed, and "Lavolin" is the trade name for liquid petrolatum, exploited as the solvent for agents recommended in spray medication exclusively in a certain work on rhinology. Pharmacists who have never heard of lavolin naturally dispense lanolin instead, and thus innocently became partners in the absurdity of causing a sufferer to try to accomplish the feat of spraying an ointment through an atomizer.

SCIENTIFIC NOMENCLATURE.

It should be needless to point out to men engaged in any scientific pursuit the necessity for a scientific nomenclature. Without systematic terminologies, the sciences contributing to pharmacy can neither be studied nor learned. What botany, pharmacology or chemistry would be without scientific nomenclatures is best answered by remembering what they were before such were evolved by Linneus, Fluckiger and Berzelius. What progress was made in medical science until systematic terminologies were introduced in physiology, pathology and anatomy? Science is *universal*; without a universal language it can not progress. It is a fundamental object and purpose of all sciences to establish a universal language through more or less systematic terminologies. To deny the necessity for nomenclature in pharmacy is to deny that it is a science. But what are the facts? Pharmacy, or at least its original votaries, aided in developing terminologies, and in two of *Myrm*sciences named the modern nomenclature connection that *Myrm*acists.

THE NOMENCLATURE o molars, a number in exce

But before this perio rsupials but of all other mam-
ences, the formation of are found in the diprotodont
gan, which finds
of all nations here[1] shown that among the *Insectivora*
represented

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* Read at the Annual Meeting of the American Pharmaceutical Association, Atlantic City, N. J., Sept. 6, 1905.

nat. and Phys., Vol. xxxvi, p. 321.

tige of tradition and almost universal harmony, but is fortified through legal enactments in every country in the world. Each of the thirty different classes of preparations of the Pharmacopeia has a distinct meaning, and with those additional in the National Formulary they afford nearly every form in which medicinal agents may be desired. Why are they ignored? Have the terms aqua, liquor, spiritus, elixir, tinctura, fluid extractum lost their meaning? Do the old names, pulvis, pilula, etc., sound too commonplace; or is it that their simplicity would be incompatible with the claims of originality or novelty or wonderful therapeutic virtue of the products of these *début de siècle* ideas? Or, perish the thought, is it that the manufacturers are not acquainted with pharmaceutic terms, or do not know of the existence of the Pharmacopeia?

THE MOTIVES.

Possibly, probably the scientific terms are ignored in order to impose more easily on physicians, to pander to their convenience and lassitude, to secure monopoly of products through trade-marks, to intimidate pharmacists with the cry of substitution, and, finally, to exploit the public with cure-alls.

Take these well-known proprietary medicines originally advertised to physicians exclusively:

Antikamnia	Pepto-Mangan
Bromidia	Scott's Emulsion
Fellow's Syrup	Vin Mariani

Would they have gone to the public if they had been known under the following titles, with the name of the manufacturer or other device as a trade-mark to indicate the brand?

Pulvis Acetanilidi Compositus.
Mistura Chloralis et Potassii Bromidi Comp.
Syrupus Ferri Mangani Quininæ et Strychninæ Comp.
Liquor Ferri et Mangani Peptonatus.
Emulsum Olei Morrhuæ cum Hypophosphitibus.
Vinum Erythroxylon.

While only two of the above, antikamnia and Scott's emulsion, are advertised directly to the public. all, except bromidia, are used for counter and pyramid window display by "cutters" and department stores.

TRADE-ADVANTAGE DELUSIONS.

Intelligent physicians are beginning to realize that they may just as well prescribe peruna and other "patents" at once as to patronize proprietary medicines with trade-names. Many also refuse to prescribe any trade-name article for fear that they, or the pharmacist, may confuse the names and serious results may follow. And yet, in the face of this undeniable awakening of medical men, a firm of chemists of the highest standing has recently devised the following meaningless, empiric names for three articles of its manufacture: Duotonal tablets, quartonol tablets, sextonol tablets.

"Tonol" stands for glycerophosphates, and the prefixes refer to one number of different kinds of glycerophosphates, salts of alkalies, contained in each tablet. Now, these names have been devised on the assumption that physicians will appreciate them, owing to their brevity
and euphony, ure the other hand, it is evident that these
names for them properties the thinking physicians, as
Aladdin's lamp. eutical titles, with the name
Others use some well-kn the firm as the trade-mark.
for instance, as a basis for T TRADE-MARK.
scientific names, claiming entire me distinct sym-
traordinary therapeutic properties for d to the scien-
It is truly amazing that these compounds a brand or
attained such wide use by physicians in vi

make of a product. When, however, a symbol of universal significance and profoundly reverent traditions is through a sordid judicature permitted to become the trade-mark of a particular line of manufacture, the necessity for some scientific system for the selection of trade-marks becomes evident.

The protection of the public is the primary object of a trade-mark; to aid the purchaser in distinguishing the brand or "make" he desires from all other brands or "makes." Naturally, it is the maker's highest prerogative to protect the public in its right of selecting his brand. What should he choose for this distinctive designation rather than his own name—his as against the world?

But greed and avarice lay their vandal hands even on the symbol of the ancient republic of Helvetia, and trail this venerated emblem in the dust of venal trade, by the grace of the state of New Jersey. The public must be protected against such vandalism; the medical profession is finally beginning to realize its anomalous position, and mindful of the dangers of Scylla and Charybdis, will soon refuse to recognize trade-names for medicines, and the pharmacist—well, he is familiar with the fact that the highest ethically exploited trade-name article keeps company in the price lists of wholesale druggists with Lydia Pinkham, peruna and Pierce of Buffalo. The wholesale druggist is the only purveyor of medicines whose fiduciary frame of mind realizes that all articles with trade-names are primarily designed for trade.

THE REMEDY.

Since none of the parties mostly concerned, the public, the physician or the pharmacist, desires the perpetuation of trade-names, why should the manufacturers be allowed to use them; or rather, why should not physicians and pharmacists refuse to handle any trade-name article? Although this position may be brought on through agitation and education, the process will be too slow. The thing to do is to carry a case for infringement of a trade name to the Supreme Court of the United States and get a decision in line with former cases, such as castoria and syrup of figs, which will once and forever prevent exclusive use of a coined name for a medicine when there is no other name by which such article may be designated. The nomenclature is the crux of the proprietary medicine question; its reformation will be a boon to the physician and the salvation of the pharmacist.

THE DENTITION OF MAMMALS WITH REFERENCE TO THAT OF MAN.*

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LONDON, ENGLAND.

In response to the kind invitation of your president, I have ventured to bring before you some of the results of recent researches into the tooth-genesis in mammals including that of man. Though my work on primate dentitions is still incomplete, I shall endeavor to summarize some of the problems to which I am paying particular attention, in the hope that an appreciation of the gaps in our present knowledge may suggest lines of investigation to other workers.

Before homologies and methods of tooth replacement can be adequately interpreted it is necessary to have a clear idea of the number of dentitions represented in the *Mammalia.* The introduction by Owen of the terms "monophyodont" and "diphyodont" indicated the state of knowledge in his day, but with the application of histologic methods to the problems of comparative odontology, the words lost much of their original significance. The marsupials, regarded by Owen as monophyodont, were shown by Kükenthal to be really diphyodont since there were down-growths of the dental lamina to the lingual side of the functional teeth, a potential second series which, however, never become functional. The result of this discovery was to interpret the functional teeth of marsupials as belonging to a persistent milk series. This view became current and is still to be found in all text-books. Subsequently, in the light of this interpretation the lingual rudiments, discovered by Leche in *Myrmecobius,* were regarded as prelacteal. Thus marsupials are now known to possess representatives of three dentitions, the middle series alone cutting the gum and usually regarded as a persistent milk dentition, but which to my mind is capable of another and more satisfactory interpretation.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Downgrowths of the dental lamina, similar to those found by Kükenthal in *Didelphys* have been discovered in a number of other mammals in which two sets of teeth are functional, e. g., man, dog, seal, hedgehog and others. The number of instances in which such post-permanent vestiges exist, warrants the belief that they are of very frequent, if not universal occurrence.

Apart from the doubtful interpretation of the so-called prelacteal vestiges in the marsupials, such are definitely known to occur in other mammals with two functional dentitions, for example in the pig and in man. In the latter they were first discovered by Röse. I have also noted their existence and they are shown in the accompanying microphotographs. The epithelial masses become later altered in character and in a fourth-month human fetus the cells become granular and have the appearance of undergoing calcification. Unfortunately, I have as yet been unable to obtain sufficiently well preserved material to speak definitely on this point. It is interesting to notice in this connection that Professor W. B. Scott of Princeton has recently found three definitely calcified dentitions in *Nesodon.* Should it ultimately be shown that there is an attempt at calcification in the human prelacteal vestiges, it would furnish additional evidence that the primates have branched off very early from the common mammalian stem, as Wiedersheim has suggested.

There can be no question, I think, that there is a general tendency to the suppression of the earlier deciduous dentitions as evidenced by the *Rodentia,* some of the *Cynoidea,* etc. Taking these two sets of facts in conjunction it would appear to me that the simplest and most satisfactory interpretation of the condition in the marsupial jaws is that the three series represent: 1, A vestigial milk set, the prelacteal of Leche; 2, a functional persistent series; and 3, post permanent vestiges, the downgrowths of Kükenthal. A similar line of reasoning applies also to the condition found in the *Cetacea.* Such an interpretation would bring the dentition in these two classes into line with that of the *Eutheria* generally, and would clear away many of the difficulties arising from the present usually accepted views.

Shortly after putting forward this hypothesis in 1896 additional welcome evidence was advanced by Wilson and Hill who independently arrived at a similar conclusion, as a result of their investigations into the "Development and Succession of the Teeth in Perameles."

This position was subsequently attacked by the late M. F. Woodward and also by Deppendorf, mainly on the theoretical grounds that the rudimentary condition in which marsupials were born tend to the preservation of the earlier dentition. This objection to my mind is unconvincing, as the marsupial at birth is brought into conditions very different from those of the young reptile which has from the very first to forage for itself, whereas the marsupial is transferred at once to the mammary gland and is thus fed for a considerable time and so the necessity for the retention of the earlier dentition is absent and has led to its disappearance.

The next point to which I would draw attention is the anomaly in the tooth change in the posterior premolar region. This anomaly consists in the fact that, whereas in the anterior premolars these teeth are preceded by deciduous premolars of a similar pattern, in the case of the posterior premolar the milk predecessor is molariform in pattern. This condition, so well known in the dog, occurs in a considerable number of mammals belonging to other classes. It is known to occur in the *Marsupialia,* (in which this tooth is the only one to be replaced) in the *Carnivora, Insectivora* and *Rodentia.* Topinard has drawn attention to the molariform pattern of the deciduous posterior premolar in man; it seems therefore likely that we have here the same anomalous condition, and this point I am at present investigating.

I think we are dealing here with a case of apparent succession only, by which I mean that the deciduous posterior premolar is not the true morphologic predecessor of ppm^4, as in the case of other teeth. M. F. Woodward has stated that in the kangaroo the replacing tooth belongs to the same series as pm^4 and $pm,^4$ and the same I find holds true in the guinea-pig. In both these cases it is interesting to note that the successional tooth develops slightly in front of its predecessor and drops backward into its place, whereas in all other cases it develops behind the tooth which it replaces and therefore drops forward. A similar condition is to be met with in the *Insectivora* (Woodward) and in the dog (Tims). From a careful study of all the facts I have been led to the conclusion that the apparent deciduous posterior premolar is in reality the first of the molar series, the true morphologic dpm^4 being crowded out. The cause of this condition is I believe, to be found in the progressive shortening of jaw in relation to its breadth. Take the case of the marsupials, the time at which the single deciduous tooth is shed varies considerably; in some it is shed "in utero" as in *Dasyurus,* in *Thylacinus* before the animal leaves the mother's pouch, in others not until the animal is full grown as *Didelphys* and *Perameles,* while in *Myrmecobius* no tooth change is known.

The ratios of the palatal breadth to length works out as follows: *Dasyrus,* 1:1.6; *Thylacinus,* 1:2.03; *Didelphys,* 1:2.10; *Perameles,* 1:2.2; *Myrmecobius,* 1:3.2. It is worthy of note in this connection that *Myrmecobius* possesses at least five upper molars, a number in excess not merely of all other marsupials but of all other mammals. The same results are found in the diprotodont series.

I have elsewhere[1] shown that among the *Insectivora* parallel conditions are to be met with through such forms as *Centetes, Ericulus, Echinops* and *Solenodon*, in which the ratios of the palate breadth to length are as follows: *Centetes,* 1:2.76; *Ericulus,* 1:1.6; *Echinops,* 1:1.5; *Solenodon,* 1:1.1...*Centetes* has one more molar than any other insectivore, thus occupying a similar position to *Myrmecobius* among marsupials.

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[1] Jour. Anat. and Phys., Vol. xxxvi, p. 321.

With regard to the rodents I have come to a like conclusion from a study of the tooth-genesis, viz.: that dpm4 is in reality the first tooth of the molar series. As already stated Topinard has drawn attention to the molariform character of the posterior deciduous premolar in man. Whether the tooth replacement is of the same nature I am at present unable to say definitely but I hope shortly to have cleared up this point.

Incidentally it may be mentioned that some animals, for example the guinea-pig, have tooth vestiges to the labial side of the true molars. If the latter belong to the successional dentition as Woodward, Lataste, Magitot and others affirm, and with much I entirely agree, then it follows that the usual definition of a molar as a tooth without a predecessor breaks down in theory.

The third point to which I would direct attention is the developmental history of the complex molar crown from the simple haplodont tooth of the *Reptilia.* In 1895 Professor Osborn delivered an address on "The History of the Cusps of the Human Molar Teeth" before the New York Institute of Stomatology. In that address Professor Osborn sketched the possible course of evolution from a simple cone through the tritubercular type of tooth. Through his many excellent papers on mammalian dentitions he has made the tritubercular theory so well known to all that it is quite unnecessary to restate it.

If this theory be examined critically, however, there seem to me to be unsurmountable difficulties, to some of which I would draw attention. The evidence in favor of this theory is mainly, if not entirely, paleontologic. While admitting the enormous value of such evidence, I do not think the embryologic can be overlooked. The researches of Täcker Röse, Woodward and others, have shown that in marsupials, ungulates, carnivores, rodents, and primates the paracone develops first and not the protocone as should be the case were this theory the true interpretation. Such uniformity in embryologic results cannot afford to be neglected. In some instances the metacone also precedes the protocone in appearing. It has been urged that this is a case of accelerated development. Such a suggestion is difficult to refute, and in the face of the accumulation of embryologic evidence, appears to be quite insufficient. Secondly, the rotation of the cusps necessary to evolve a tritubercular tooth from a triconodont is purely hypothetical, embryology furnishes no evidence of it, and paleontology offers, so far as I am aware, no transitional forms. Again, the absence of the protocone, as I have elsewhere[2] shown is the rule in the *Canidae,* even in such a primitive tooth as dpm^4, and the same is true of other animals. And lastly, there are the multituberculates, contemporaries with the trituberculates. Several other objections have been brought forward, but these alone seem to me to present great obstacles to the acceptance of this theory.

Neither does the multituberculate theory of Forsyth Major afford an adequate explanation for all mammals, though I believe it is applicable to the rodents and possibly to some other classes. The numerically reduced incisors together with the absence of canines and the presence of a diastema seems to place the multituberculates out of court as being the ancestors of animals with a full complement of teeth, such as carnivora and insectivora. Further it is I think generally admitted, that the pattern of the milk teeth is more primitive than that of their successors, and they are usually less tuberculate (Figs. 1 and 2).

The concresence of cusps representing originally separate teeth has been observed in certain fishes, in *Sphenodon* and in the chamelion but such examples are rare. Were such a theory an adequate explanation we might reasonably expect that many more examples would have been found when the enormous amount of embryologic research in the tooth genesis of mammals is taken into consideration. It is easy to be destructive, much less easy to be constructive. Neither of the above mentioned theories is to my mind satisfactory and I venture to suggest the outlines of another alternative hypothesis, based on the cingulum as a factor in the formation of new cusps (Fig. 3).

That the cingulum is a structure of extreme antiquity there can be no doubt. It is well marked in the anomodont reptiles. It is to be seen in the teeth of many fishes and is very evident in the teeth, specially those of the deciduous dentition, of mammals. Reconstructions of embryonic teeth show that the cingulum is relatively much larger than at a later period. Its function is probably that of affording protection to the gum when the haplodont teeth of the opposing jaws interlock. The effect of such an inter-action might give rise to small anterior and posterior cusps which increasing in size would give rise to the tri-conodont type of tooth such as is found in *Triconodon* and in *Amphilestes* as shown by Goodrich on full exposure of the teeth.

So far this hypothesis accords closely with that of the tritubercular theory. In passing from the reptiles to the mammals a different method of apposition of the jaws comes into play; in the former the jaws bite against one another whereas in the latter the lower jaw closes within the upper arcade. The apices of the lower cones would then fit between a cone of the upper series and the cingulum on its inner aspect causing a depression at that point and at the same time a separation inwards of the cingulum from its cone leading to a broadening of the upper tooth in the transverse diameter. The free edge of the upper internal cingulum would now act in a similar mechanical way on the lower teeth and cause them to broaden out transversely. The mechanical factors would thus operate first on the teeth of the upper jaw and this is in accord with the generally admitted fact that the pattern of the upper molars is the more primitive.

The formation of the smaller secondary cusps is due to the mechanical usage and presents but little difficulty when the problem of the initial stages of the genesis of the molar pattern is once solved.

The importance of the cingulum in cusp formation will I think be acceded by anyone after a careful examination of mammalian teeth generally. Many cusps will be found to be placed directly on it. The small cusps at the lateral margins of the milk incisors of the dog can be seen to be nothing more than the terminations of the internal cingulum which originally surrounded the base of the tooth but has now ceased to exist on the outer aspect, its protective function being

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[2] "Tooth-Genesis in the Canidæ," Jour. (Zoology) Linnean Soc., London, Vol. xxv, 1596, p. 445.

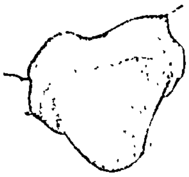

Fig. 1.—Upper third of the premolar of *Hyæna*. External aspect showing external cingulum and small anterior cusps. (Mus. Zoo. Univ. of Cambridge.)

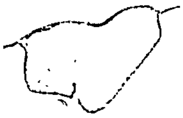

Fig. 2.—Upper fourth molar of *Canis familiaris*, with external cingulum and posterior cingulum cusp only. (Mus. Zool. Univ. of Cambridge.)

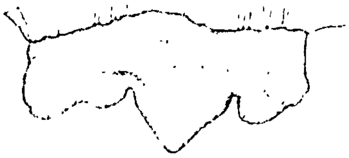

Fig. 3.—Upper fourth molar of *Felis tigris*, with external cingulum and enormously developed anterior and posterior cingulum cusps. (Mus. Zool. Univ. of Cambridge.)

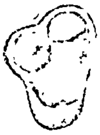

Fig. 4.—Crown surface of upper first molar of *Cyon rutilans* (Mus. Zool. Univ. of Cambridge.)

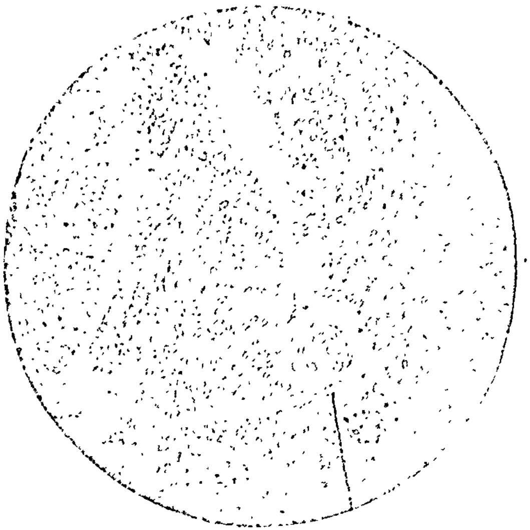

Fig. 7.—Human. Line indicates what may be prelacteal.

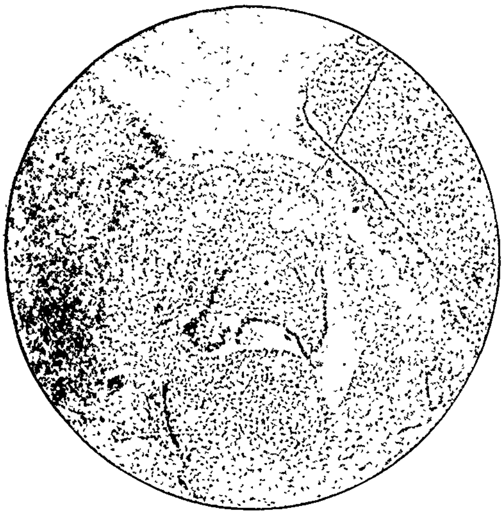

Fig. 8.—Human di^2 with labial downgrowth and perhaps prelacteal vestige.

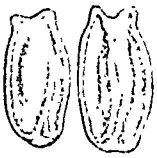

Fig. 5.—Crown surface of molar teeth of rabbit. The larger one shows two teeth fused, ×4. (Mus. Zool. Univ. of Cambridge.)

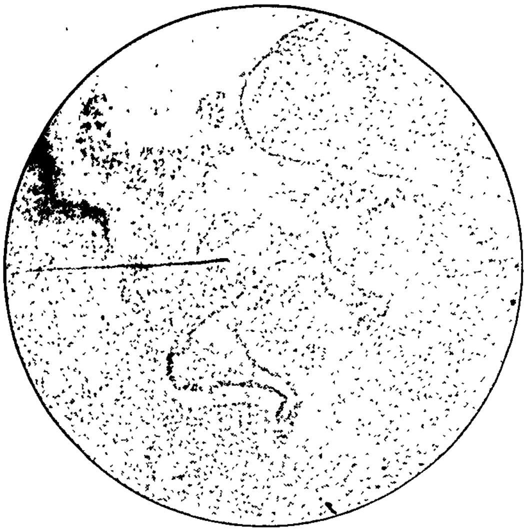

Fig. 10.—Human *dc*.

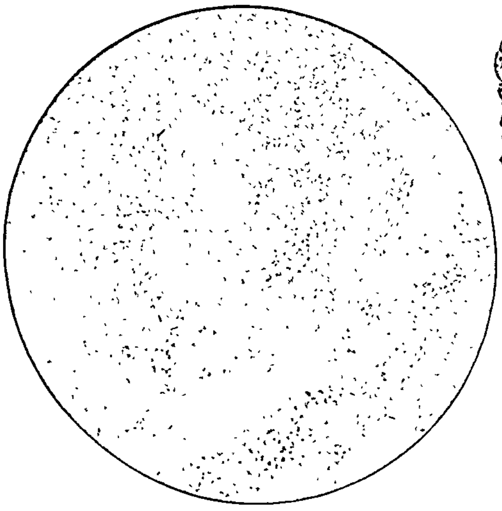

Fig. 9.—Higher magnification of portion indicated by line in Fig. 8.

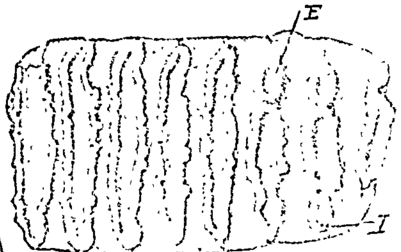

Fig. 6.—Crown surface of molar tooth of *Elephas antiquus* from the Cambridge Gravel. Eight teeth fused. E, external cingulum cusp; I, internal Cingulum cusp. × ½. (Mus. Zool. Univ. of Cambridge.)

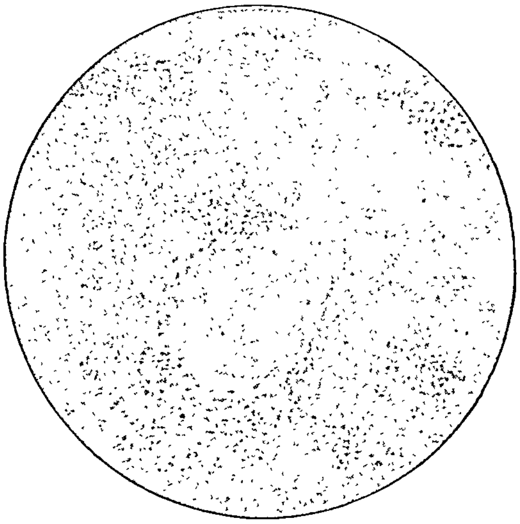

Fig. 11.—Highly magnified portion of the part indicated by line in Fig. 10.

Illustrating Article by Dr. Tims.

no longer required. The cingulum is well marked in most human teeth, especially the bicuspids. For some reason, which I cannot explain, it occasionally happens that the outer portion of the cingulum persists and even gives rise to well marked cusps; such a condition is seen in *Otocyon* and in some of the *Insectivora* (Fig. 4).

The reason why the factors have not operated at the anterior part of the jaw and have allowed the incisors to retain a more primitive type, is to be found in the fact that the greater part of the force exerted by the muscles of mastication acts on the posterior teeth and indicated by the common use of the word "grinders." I take it that any theory put forward to account for the molar pattern should be expected to apply to both tritubercular and multitubercular teeth, and this I think is one great objection to the two hypotheses which go by those names. If the teeth of the multituberculata be examined it will be seen to consist of three transverse rows of cusps, though in some cases there are only two as in *Polymastodon tabensis* and in *Meniscoesus.* If we suppose an anteroposterior fusion of several teeth each consisting of a main central cone with external and internal cingulum cusps, there would result the more complex crown of the *Polymastodontidæ,* and at the same time would explain the great reduction in the total number of individual teeth (Fig. 5). The tendency to the reduction in the external portion of the cingulum in the mammalia is very general, and a similar condition affecting the multituberculate tooth would give the two transverse rows of cusps only as found in *P. tabensis* and *Meniscœsus.*

Space will not permit of a further application of this hypothesis to individual forms, it must suffice to say that from the multituberculate type it is not difficult to derive the pattern of molars found in the *Rodentia* and the *Proboscidea* (Fig. 6). I have been led to formulate this hypothesis from a study of the tooth-genesis in the *Carnivora, Rodentia,* primates and others, in every one of which the tooth arises in the first instance as a single cone with a marked cingulum.

The embryologic evidence of tooth-genesis in the rodents points to a multituberculate ancestry, thus agreeing with the paleontologic conclusions of Forsyth Major. The history, however, of the cusps differs from that of such forms as the carnivores and primates which leads in the direction of seeking for their primitive origin in some forms similar to, if not identical with, the fossil trituberculates (Figs. 7-11).

The inference from these conclusions is that we must look for at least a dual origin for the mammalia in mesozoic times. This may be regarded as an unorthodox conclusion, but I may be permitted to quote the words of the distinguished American paleontologist, Doctor J. L. Wortman, in his remarks at the conclusion of Professor Osborn's address above referred to. Dr. Wortman, in speaking of a polyphyletic origin of the mammalia, says that it is a hypothesis "not wholly unwarranted by the evidence already in our possession."

I fear that I have been able to give but the barest outline of this theory, but I hope that I have said sufficient to make clear the underlying idea, and I shall be amply rewarded if it but leads other workers to inquire into its validity. Any reasonable hypothesis has its value, if it should prove adequate it is so much gained, if the reverse it has cleared some of the mist from our eyes.

CAPITAL OPERATIONS FOR THE CURE OF TINNITUS AURIUM.[*]

W. SOHIER BRYANT, M.D.
NEW YORK.

I collected the material for this paper during my preparations for an excision of the auditory nerve in a case of grave tinnitus aurium, with suicidal tendencies. Several weeks were consumed in work on the cadaver and in designing special instruments. During this time my patient improved so much under enforced hygiene a capital operation no longer appeared justifiable.

Patient.—The patient was a psychopathic, neurasthenic man of 40, in fair physical condition and nutrition.

History.—He smoked to excess and had a questionable specific history. He complained of tinnitus on the left side, of inability to conduct his business, of disappointed ambitions, and of loss of sleep. Beginning in his fourth year, the left ear had continued to discharge until he was 26 years old. Some loss of hearing followed early, but a considerable part of the hearing was later lost suddenly. When he was 28 years old, the tinnitus, "a low-pitched hum in the head" when the right ear was stopped with the finger, was first noted. At the age of 37 he fell from a horse, bruised his head, and broke his leg. The tinnitus then became a high-pitched sizzling in the head or left ear, like the sound of a soda siphon. Previous to his present complaint he was strong and muscular and had great energy and endurance. At the time of examination he was weak and could not sleep or concentrate his mind on anything. He trembled and was exhausted by the effort to restrain himself and appear composed under the intolerable burden of the tinnitus.

He had consulted many specialists and others, including eight well-known practitioners of New York, because the tinnitus kept him awake. He said that at that time air did not enter the Eustachian tube. Though at first the tinnitus was only heard at night, it gradually became constant. He had received every sort of treatment. Some nasal polypi had been removed. Pilocarpin had been given to intoxication without any effect on the tinnitus. Last year a radical operation was performed. No change in the tinnitus resulted.

Examination.—When I first examined the patient he had a completely healed middle ear following the radical operation. The Eustachian tube was closed at the tympanic end with a dermatized cicatrix. No remnants of ossicles or tympanic membrane or other landmarks were visible.

He said that the pitch of the tinnitus would rise about one octave, and become louder before a storm, and then fall again. The tinnitus was in the head, and was loud enough to be heard above a brass band or a full orchestra. When it was imitated, the sound was much like that of a soda siphon, but no louder. The patient said that the pitch of the tinnitus varied gradually.

While he was under examination, he said that the pitch corresponded to F .512, S. V., then F .128, S. V., and again, ten minutes later, F .256, S. V., and again it dropped. In the left ear he heard nothing by air except F .1024, S. V. By bone conduction, all the normal scale could be heard. Bone conduction was equal for both ears when the right or good ear was stopped with the finger. The patient stated that the tinnitus was more annoying in a noisy than in a quiet place. When at its worst, he was forced to stop talking, and perspiration would stream off his face in his effort to endure it and to control his distress and exasperation. He had recently attempted suicide. At the time of the examination he weighed 124 pounds. At the age of 21 his maximum weight was 155 pounds.

Subsequent History.—After taking a vacation in the country for a few weeks, he became more composed and slept fairly well. He said that the tinnitus was perhaps a little less, but that there was no marked change. This improvement has lasted until now, for about one year.

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[*] Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

chronic catarrhal conditions, with tinnitus. The treatment consisted of the radical mastoid operation and removal of the stapes. In the first case the result was a complete failure; in the second the operation was successful, and in the third case the tinnitus was reduced. Balance[6] published in 1900 an account of the removal of the semicircular canals for suppuration. The tinnitus ceased. In April, 1904, Wallace and Marriage[7] published a description of a section of the auditory nerve. The tinnitus was diminished, but death followed in three weeks. In July, 1904, Lake[8] published an account of the removal of the semicircular canals for vertigo. This operation had no influence on the coincident tinnitus. Shortly after this case he opened a cochlea, with temporary relief of the tinnitus. R. H. Parry[9] reported, in August, 1904, the division of the auditory nerve, resulting in improved tinnitus.

History.—In Parry's case, the patient was seized with sudden giddiness six years previously, and similar attacks recurred for two years. Then came a slight improvement. A year before the operation the attacks became more frequent again and very bad. There was severe tinnitus in the left ear and occasionally in the right. The patient had always been partially deaf in the left ear, which discharged until two years before operation. There was no alcoholic or syphilitic history.

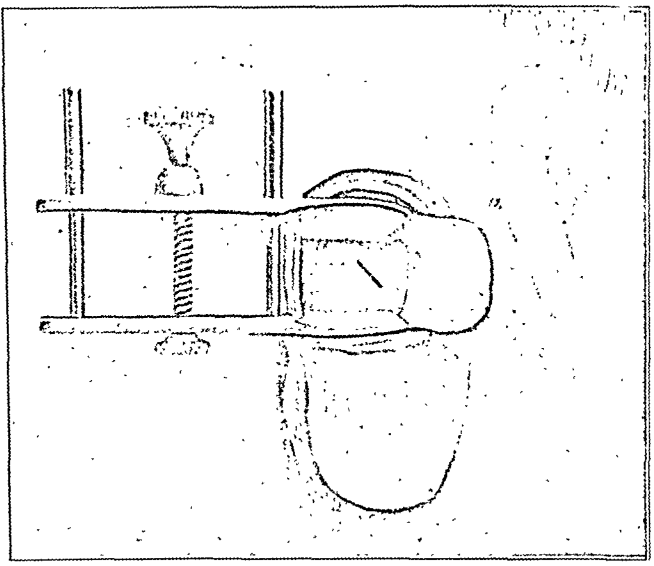
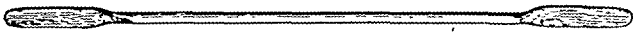


Figure 6.

Operation and Result.—The middle fossa was opened, and an osteoplastic flap extending from the center of the zygoma to the base of the mastoid process was made. The dura was elevated from the petrous bone to the semicircular canal. The tegmen was removed and some of the petrous pyramid. After the puncture of the dura to allow the escape of the cerebrospinal fluid, the soft parts were retracted. There was some bleeding. The removal of the roof of the auditory meatus exposed the seventh and eighth nerves. The facial nerve was torn by a spicule of bone. Giddiness and complete facial paralysis resulted, but an early improvement took place. Though lessened, the tinnitus persisted, and also the vertigo. The wound healed by first intention. A month later the dizziness and tinnitus were slightly better on the whole. A year later anastomosis of the facial and spinal accessory was done. As a result the tinnitus was considerably improved, but not the vertigo.



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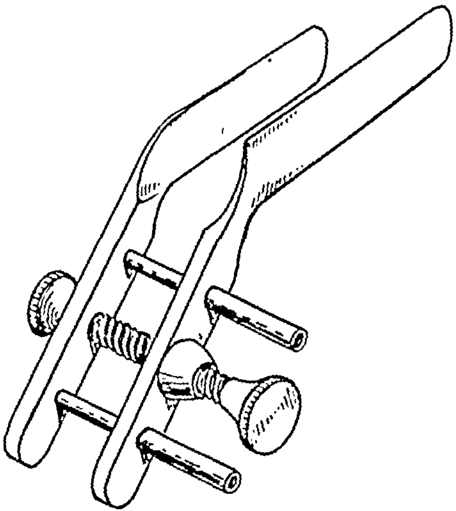

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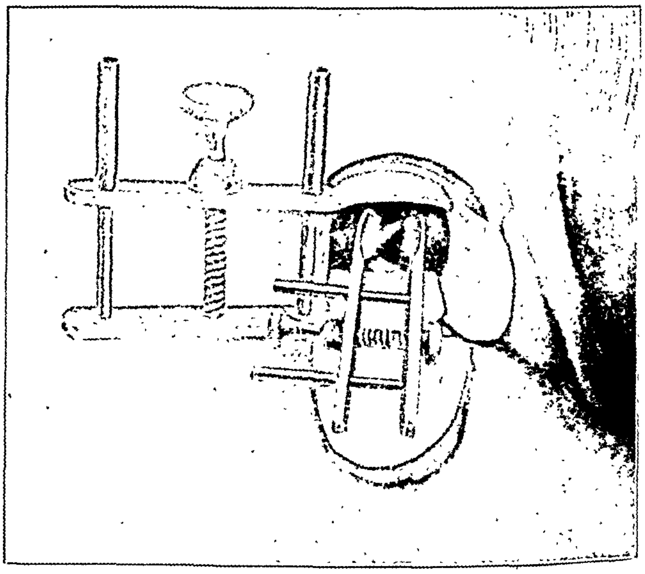

Figure 9.

In Krause's case,[4] the patient was a woman, 63 years old.

History.—In the right ear she had tinnitus, which prevented her from sleeping and rendered life unbearable. She also suffered from a "sclerotic process of the inner ear."

Operation and Result.—An osteoplastic flap was made of the right occipital region, with the base below. A similar dural flap was also made. The right cerebral hemisphere was displaced to the left with a spatula, and the auditory and facial nerves exposed. The bleeding of the cerebral veins was controlled by the gauge-tampon. The auditory nerve was cut. The operation lasted one hour and a half. On recovering from the anesthetic, the patient could not wink the right eye as well as the left. She said the tinnitus was not so bad as before (remarkable!), but complained of dizziness. She was very drowsy. The next day the tinnitus was noticeably less (!) and there was a slight paresis of the face. On the second day there was still less tinnitus, and the dizziness had entirely gone. The next day the patient was seized with a chill, and there was pneumonic sputa, and five days after the operation died from pneumonia.

Wallace and Marriage's Case.[7]—A mastoid operation had been performed on the patient. The middle ear was lined with healthy skin. The patient suffered from dizziness and tinnitus in the ear. The wall of the bony labyrinth was intact. A loud

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6. Balance: Trans. of the Otol. Soc. of the United Kingdom, 1900, p. 47.

7. Wallace and Marriage: Lancet, London, April 30, 1905, p. 1192.

8. Richard Lake: "Removal of the Semicircular Canals in a Case of Unilateral Aural Vertigo." Journal of Laryngology, Rhinology, and Otology. London, July, 1904, p. 350; Feb. 1905, p. 74.

9. R. H. Parry: "A Case of Tinnitus and Vertigo Treated by Division of the Auditory Nerve," Jour. of Laryn., Rhin. and Otol., London, August, 1904, XIX, p. 402.

extends downward to the lateral sinus about an inch and a half behind the anterior limb (Fig. 1). An osteoplastic flap may be made, but my experience shows that it is usually inexpedient, because of the great thickness of the bone and because of the impossibility of locating absolutely from the outside the position of the lateral sinus. The uncovered bone (Fig. 2) is perforated by my front-bent gouge (Fig. 3), and the opening enlarged with a heavy rongeur and carried well forward as far as the superior angle of the petrous pyramid and downward to the lateral sinus. The dura mater is cut with a "U" flap opening forward; the cerebrum is then carefully lifted with my spatula (Fig. 4) and the anterior surface of the petrous bone is explored for the eminence of the superior semicircular canal, which is the landmark for the route to the auditory nerve.

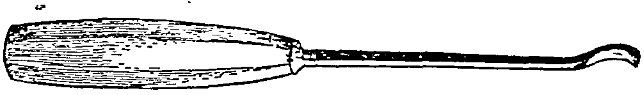
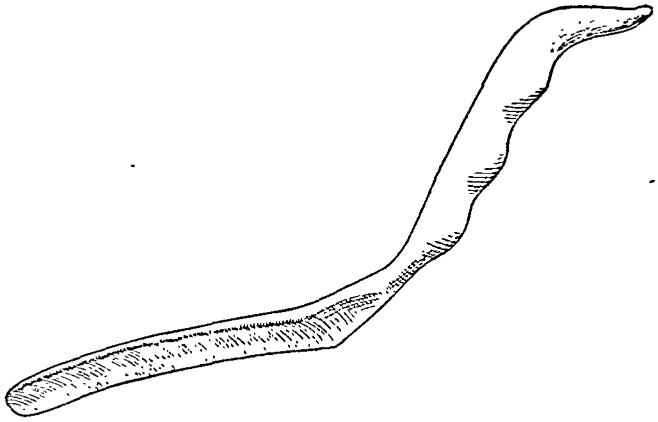


Figure 3.

If the cerebral veins are not found lying across the field of operation, my cerebral speculum (Fig. 5) is inserted to hold the cerebrum up off the anterior portion of the tentorium (Fig. 6). If the cerebral veins are in the way, they are first pinched off. With a probe the edge of the petrous bone is located, and with a bistoury a longitudinal cut is made in the tentorium parallel to the edge of the petrous bone, but well behind it, to avoid the superior petrosal sinus.

Veins generally can be distinctly seen running parallel with the edge of the petrous bone and the incision is made posterior to them. The cut is about half an inch long and lies behind the eminence of the superior semicircular canal. With my cerebellar spatula (Fig. 7), the posterior flap of the cerebellar incision is drawn backward. To see if the cut is sufficiently long, the spatula is inserted from one-half to three-fourths of an inch, and the cerebellum slowly pushed backward to disclose the brilliant white auditory nerve lying at the bottom of the wound directly in line with the eminence of the superior semicircular canal. My cerebellar speculum is then inserted (Fig. 8). The nerve is easily recognized on account of its position and its glistening snow-white appearance (Fig. 9). It lies between 4 and 5 cm. from the anterior edge of the wound and nearer the opening of the wound than the facial nerve, which lies farther inward and anterior to the auditory nerve.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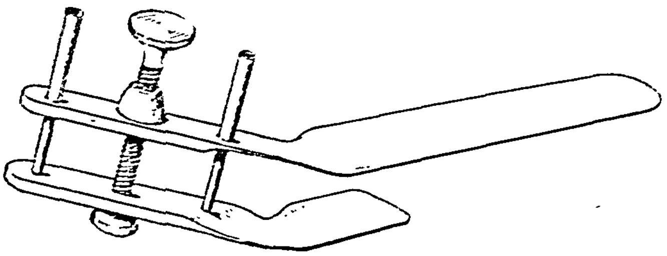
The auditory nerve is grasped by small [illegible] forceps. Care must be taken to avoid [illegible] the facial nerve. Then the auditory nerve is pulled backward and outward from the internal auditory meatus, and if the proximal part of the nerve is not torn by this time the nerve is pulled outward and forward: the structure of the nerve is so soft and friable that this was found the easiest means of removing it. Next the facial nerve must be inspected, and if any shreds of the auditory nerve are seen lying on it these are to be removed in the same way as the trunk. In this operation very little displacement of the cerebrum is required and scarcely any of the cerebellum.

The chief difficulty of the operation will be due to the venous hemorrhage from the cut in the tentorium, but with care in avoiding the veins which are readily seen on the upper surface the hemorrhage need not be very great. The flow of the cerebrospinal fluid will be considerable and very annoying and will require frequent mopping even in the cadaver. The wound can be kept clean by gauze packing. When the wound is closed, a small drain running from the stump of the auditory nerve through the external angle of the tentorial incision, the anterior inferior end of the dura mater incision and the anterior inferior end of the skin flap should be left. This drain is intended to facilitate the flow of cerebrospinal fluid. The tentorium need not be sutured. Its rigidity and elastic texture bring it back in place. The dura mater, the periosteum and the skin flap are sutured, leaving only space enough for the drain.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PROGNOSIS.

The prognosis in regard to the cure of the tinnitus in these cases depends largely on the care with which the diagnosis is made before the operation. Of course, the causes of the cerebral tinnitus, if it exists, will not be much affected by the removal of the auditory nerve; but when the cause of the tinnitus can be located in the middle or inner ear or in the peripheral end of the auditory nerve, cure can be expected.

SUMMARY OF REPORTED CASES.

In 1884 J. Orne Green [illegible] removed the cochlea for grave tinnitus. [illegible] followed the operations, but the tinnitus continued. [illegible] the carotid. The tinnitus [illegible] were cerebral complications [illegible] ligated the carotid. [illegible]

[illegible]

Similar cases are met with now and again. Fortunately the number is not great. They usually end in suicide or insanity. In the psychopathic, a slight tinnitus leads to hallucinations of hearing and finally to insanity. In cases of grave tinnitus, any means of alleviation, no matter how severe or how great the risk, are justifiable. The torture which these people suffer can but be compared to the refinments of cruelty employed by the doges of Venice, when, for example, water was allowed to fall slowly, drop by drop, on the heads of the unfortunate offenders until they were bereft of reason. In a similar manner, the victims of these painless sounds become crazed, and attempt suicide for relief, or finally become demented.

On a few occasions the aid of major surgery has been sought to furnish relief for the unfortunate sufferers whom the intolerable burden of grave tinnitus had driven to desperation. The suggestions in this paper will be valuable if they add anything to the help which the medical profession has been able to give these sufferers in the past.

The work previously done in this field does not indicate clearly the operation to be followed in such cases, nor does it give any encouragement of good results. It does show, however, that it is most necessary to make an accurate diagnosis before operating and that an operation should be resorted to only in those cases in which the grave tinnitus is not clearly of central origin. It also shows that better technic is necessary.

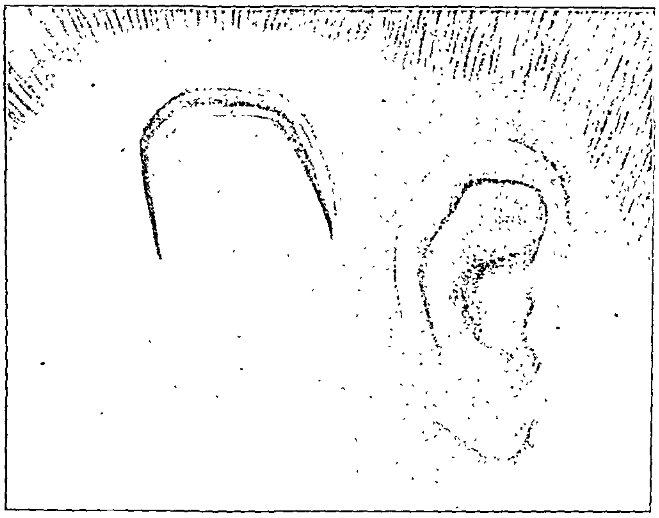


Figure 1.

INDICATIONS FOR OPERATION.

The indications for operating in grave tinnitus are akin to those found in trifacial neuralgia. Experience has here shown that a nerve trunk may be destroyed, cutting off all perceptions of undesirable centripetal impulses. The same must be true of the auditory nerve when the disagreeable sensations are those of sound. With the eighth pair, as well as with the fifth pair of nerves, the best results must be achieved by attacking the intracranial roots of the nerves. Ligature of the carotid is, at best, only a palliative measure. Intralabyrinthine destruction of the auditory nerve has extremely difficult technic and frequently has not been complete. There remains, therefore, nothing but intradural section of this nerve.

On account of the severity of the operation, other means should be tried and found unavailing before this operation is recommended to the patient. Suppuration should also be stopped before this operation is admissible. The source of the tinnitus must be located in or about the labyrinth. A central cause for the tinnitus would remain as effective after as before the operation. The selection of cases of grave tinnitus suitable for operation is very important. Many of the failures in the past can be attributed to mistakes in this particular. To offer any encouragement for operating, the source of the tinnitus must be on the distal side of the point of nerve section. The most promising cases for nerve section show marked loss in air conduction with preservation of bone conduction. Tinnitus, with definite cochlear lesions, low-pitched tinnitus, and tinnitus of varying character and pitch, offer good operating risks.

Tinnitus of high pitch, musical tinnitus or voices and complete deafness in both air and bone conduction offer contraindications for the operation. In a case in which deafness is present by both air and bone conduction, it is probable that the tinnitus originates in some part of the auditory nerve which is still functionating and that this lies more proximally than the cochlea. In cases in which there is good bone conduction hearing with the tinnitus, it is reasonable to suppose that the cause lies peripherally to the cochlea.

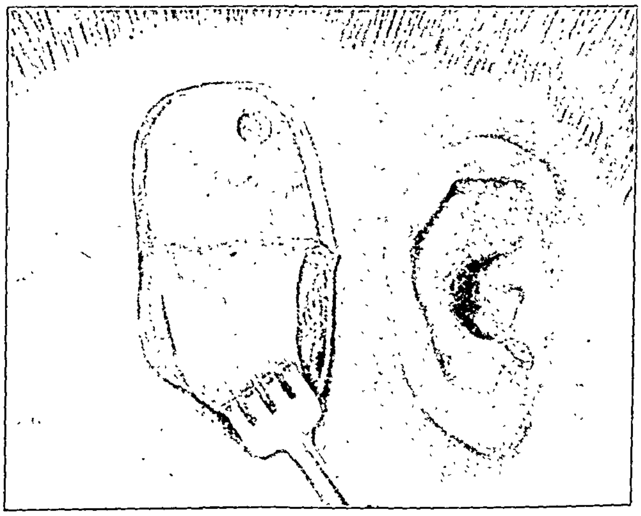


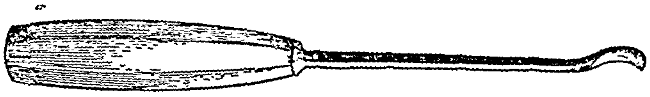
Figure 2.

Following a method of procedure suggested by my friend, Dr. Carleton Flynt, I performed 65 auditory neurectomies on the cadaver, besides those I did according to the methods described by others.

I acquired considerable efficiency, and by the aid of some instruments specially designed for the purpose I found no difficulty in removing the intra-arachnoid portion of the auditory nerve without any injury to the facial nerve. In most cases I was able to do this without interference with the cerebral veins which are the only possible source of annoying hemorrhage if the technic recommended is carefully followed.

TECHNIC.

Dr. Carleton Flynt suggested the most direct route by which the intradural portion of the auditory nerve may be reached with the least destruction of tissue and compression of the brain, especially of the cerebellum. This route goes through the middle fossa and enters the posterior fossa through the tentorium cerebelli. Inverted "U" skin and periosteal flaps are cut with their anterior limb behind the posterior edge of the mastoid process and extending about an inch and a half upward from the center of the lateral sinus. The posterior limb extends downward to the lateral sinus about an inch and a half behind the anterior limb (Fig. 1). An osteoplastic flap may be made, but my experience shows that it is usually inexpedient, because of the great thickness of the bone and because of the impossibility of locating absolutely from the outside the position of the lateral sinus. The uncovered bone (Fig. 2) is perforated by my front-bent gouge (Fig. 3), and the opening enlarged with a heavy rongeur and carried well forward as far as the superior angle of the petrous pyramid and downward to the lateral sinus. The dura mater is cut with a "U" flap opening forward; the cerebrum is then carefully lifted with my spatula (Fig. 4) and the anterior surface of the petrous bone is explored for the eminence of the superior semicircular canal, which is the landmark for the route to the auditory nerve.



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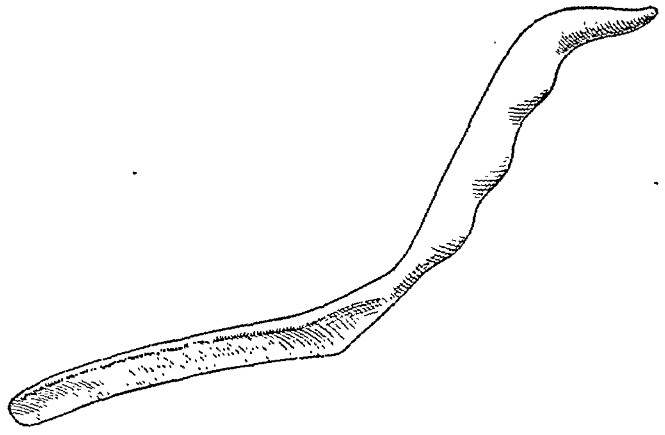

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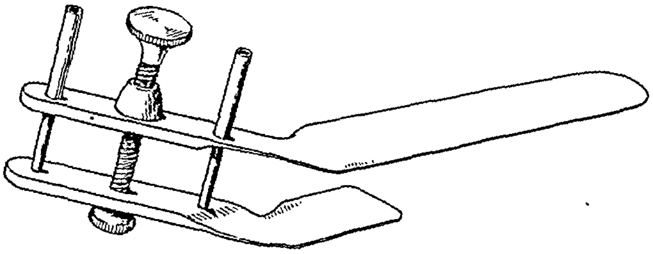

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SUMMARY OF REPORTED CASES.

In 1884 J. Orne Green (unpublished) curetted the cochlea for grave tinnitus. Recovery followed the operations, but the tinnitus continued. Linsmayer[1] ligated the carotid. The tinnitus ceased for a short time. Severe cerebral complications resulted. Grunert[2] also ligated the carotid. The tinnitus reappeared in four months. In 1895 Meyerson[3] reported a ligature of the carotid. In four hours the tinnitus returned. Krause of Berlin[4] published, in 1903, the report of a case of section of the auditory nerve done some years previously. There was recovery from the operation and a lessening of the tinnitus. Death resulted from pneumonia. In 1900 Milligan[5] published an account of three cases of chronic catarrhal conditions, with tinnitus. The treatment consisted of the radical mastoid operation and removal of the stapes. In the first case the result was a complete failure; in the second the operation was successful, and in the third case the tinnitus was reduced. Balance[6] published in 1900 an account of the removal of the semicircular canals for suppuration. The tinnitus ceased. In April, 1904, Wallace and Marriage[7] published a description of a section of the auditory nerve. The tinnitus was diminished, but death followed in three weeks. In July, 1904, Lake[8] published an account of the removal of the semicircular canals for vertigo. This operation had no influence on the coincident tinnitus. Shortly after this case he opened a cochlea, with temporary relief of the tinnitus. R. H. Parry[9] reported, in August, 1904, the division of the auditory nerve, resulting in improved tinnitus.

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[1] Linsmayer. Versuch d. deutsch. Naturforscher u. Aerzte, 1895.

[2] Grunert: Archiv. p. Ohrenheilkunde, vol. xxxv.

[3] Meyerson: Versuch d. deutsch. Naturforscher u. Aerzte, 1895.

[4] Krause (Berlin)' "Zür Freilling der hinteren, Felsenbeinfläche u. d. Kleinhirns," Beitrage z. klinischer chirurgie, v. xxxvii, 1903, p. 734.

[5] W. Milligan: Trans. of the Otol. Soc. of the United Kingdo 1900, p. 50.

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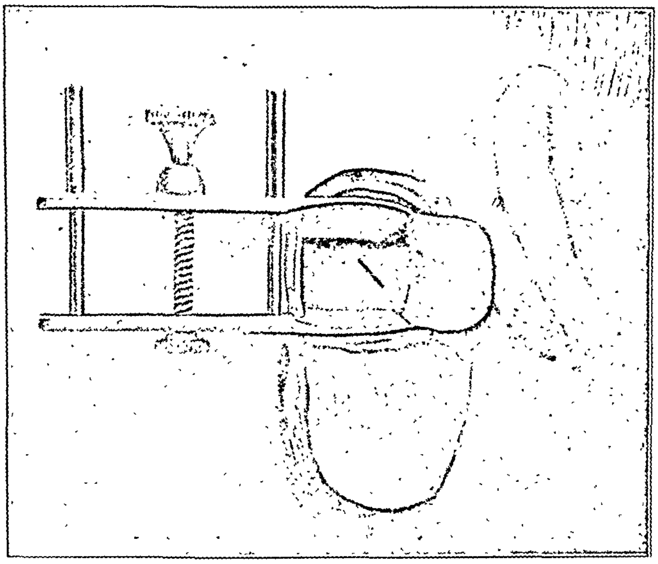

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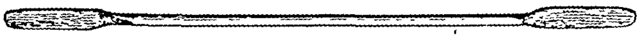

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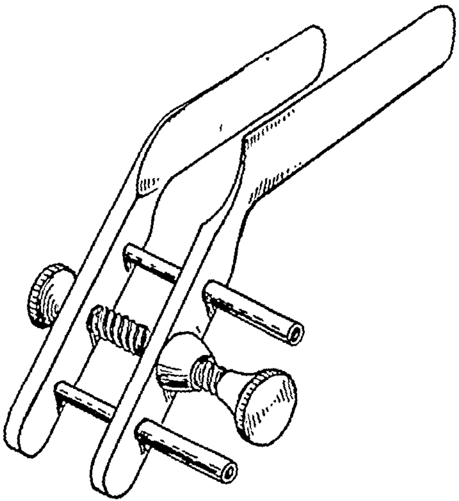

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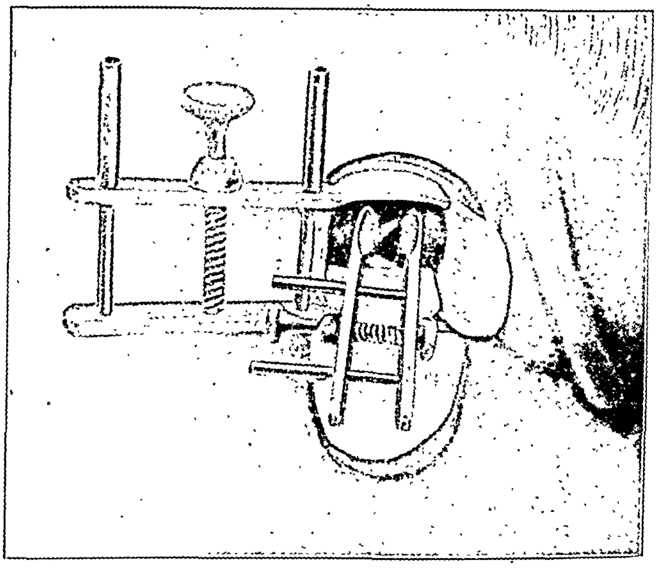

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Wallace and Marriage's Case.[7]—A mastoid operation had been performed on the patient. The middle ear was lined with healthy skin. The patient suffered from dizziness and tinnitus in the ear. The wall of the bony labyrinth was intact. A loud voice could be perceived, but not understood. A loud watch was heard only in contact with the mastoid process. The tuning fork placed on the forehead was heard only on the opposite side. When the fork was placed on the chin it was heard slightly in the affected ear, but sounded quite loud in the other ear. On the mastoid, the tuning fork was only faintly heard. On compression of the left carotid artery the tinnitus *ceased*. The tinnitus was like the sound of running water, and the sound of ringing bells was always present. It was most noticeable at night, especially when the patient lay on the affected ear. The tinnitus was so severe that sleep was rarely obtained without hypnotics, and was then disturbed and broken. The vertigo was of the type found in Ménière's disease. Drugs had been tried with absolutely no results, and the division of the auditory nerve appeared to be the only possible means of relief for the exhaustion of the patient.

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[6] Balance: Trans. of the Otol. Soc. of the United Kingdom, 1900, p. 47.

[7] Wallace and Marriage: Lancet, London, April 30, 1905, p. 1192.

[8] Richard Lake: "Removal of the Semicircular Canals in a Case of Unilateral Aural Vertigo." Journal of Laryngology, Rhinology, and Otology. London, July, 1904, p. 350; Feb. 1905, p. 74.

[9] R. H. Parry: "A Case of Tinnitus and Vertigo Treated by Division of the Auditory Nerve," Jour. of Laryn., Rhin. and Otol., London, August, 1904, XIX, p. 402.

Operation.—The complete mastoid operation was performed. The lateral sinus was exposed and the posterior wall of the meatus removed. The dura mater over the temporal lobe was next exposed, and then that over the cerebellum behind the lateral sinus was laid bare for three-fourths of an inch. A part of the temporal bone extending from the lateral sinus forward and inward to the horizontal semicircular canal was then removed from the groove. This exposed the dura mater in front of the sinus for three-eighths of an inch. A flat retractor, one inch broad and bent at an angle, was inserted and the cerebellum compressed. With the aid of a forehead light, the auditory nerve was readily seen. A blunt hook was passed round the eighth nerve without injuring the facial nerve, and the auditory nerve was then divided by traction or scissors.

The bleeding from the lateral sinus was so great that the wound had to be plugged. Seven days later it was opened and the operation continued. On section of the dura mater much cerebrospinal fluid escaped. The lateral sinus persisting in the way, it was ligated and divided and the cerebellum pressed aside. On account of the flow of blood and of cerebrospinal fluid, a good view of the auditory nerve could not be obtained. Finally it was torn across by a blunt hook.

Result.—The operation appeared to be successful. The wound was closed and a small drain left at the lower edge. The next day there was facial paralysis. The tinnitus had greatly subsided, but was still obvious to the patient. She also had considerable dizziness and headache. The dressings were soaked with cerebrospinal fluid. On the second day, the flaps were bulged by a blood clot, some of which was let out. On the third day, there was some hernia and no attempt at healing. There was slight diplopia, with occasional vomiting. On the thirteenth day, the condition was the same. The diplopia cleared up. The wound was clean, but showed no signs of healing. The discharge of the cerebrospinal fluid continued and the headache was severe. There was no longer any complaint of tinnitus (!). The ocular fundi were normal. Though diminished, the tinnitus had probably remained present and never stopped. The patient died on the twenty-first day.

Autopsy.—No meningitis was found. The cerebrum was healthy throughout and the opposite cerebellar hemisphere was normal. The hemisphere operated on was somewhat soft, but showed no loss of substance. The cortex was blood stained and the vessels full of blood. The cochlea and the semicircular canals were normal. With the exception of a strand as thick as a fine piece of cotton, which lay next the facial nerve, the auditory nerve had been divided. The other organs were normal, save that there were old caseous foci in the lungs. Degeneration of the auditory nerve was found, also of the descending spinal root of the fifth nerve throughout its length in the pons and the medulla, which suggested that the efferent portion of the nerve had been damaged in its extramedullary course. A hemorrhagic softening surrounded a small vessel. This degeneration was confined to the fibers of the pons extending to the middle peduncle. The vestibular nerve was found to be completely degenerated.

DISCUSSION OF REPORTED CASES.

In the case reported by Green and Lake[8] the curetting of the cochlea is not worthy of extended consideration in this connection, because it is very difficult to destroy completely the cochlear nerve within the cochlea.

The accounts of Linsmayer,[1] Grunert[2] and Meyerson[3] show that ligation of the carotid has, at best, only a transitory effect on tinnitus. This method need not be discussed, because it does not directly destroy the perception of the tinnitus and because its effect is only indirect and very uncertain.

Lake's[8] report of the removal of the semicircular canal is irrelevant, because these canals are not supposed to be implicated in tinnitus. Balance's[6] case is excluded from the argument, because it was a case of active suppuration. The good results followed the cure of the suppuration.

The three cases of stapedectomy cited by Milligan[5] are not relevant, since they belong to the class of lesser middle-ear operations.

We now come to the consideration of the three sections of the auditory nerve which have been reported.

The technic followed by Krause[4] required a very extensive wound and extreme displacement of the cerebellum, which was probably sufficient to cause some degeneration. The description of the ear lesion given and of the tinnitus are not sufficient to make it clear where the tinnitus had its probable origin—whether in the middle ear, cochlea, auditory nerve or in the higher centers. After the operation the tinnitus was lessened, which is to be expected after any shock. The subsequent death of the patient indicates that she was probably not in a very observant frame of mind during the five days between the operation and the autopsy. It is worthy of remark that the tinnitus did not stop, nor is there any note of its change in character except that its intensity was diminished.

In the records given by Wallace and Marriage[7] the patient's hearing was very much diminished in the affected ear. Bone, as well as air conduction, was affected. This did not give a very good prognosis of improvement from the operation. The route selected for reaching the auditory nerve was the continuance inward of the common mastoid operation. This is laborious, because of the cracking of the bone, and slow because of the hemorrhage which follows. A clear view of the nerve required an operation in two sittings, disturbance of the lateral sinus and considerable displacement of the delicate cerebellum.

These cases are inconclusive, because in all some fibers of the auditory nerve were left intact. After the operation, the tinnitus was diminished in intensity—a change which follows every severe exhaustion. The fact that death followed the operation so quickly and the finding of the autopsy suggest that there was considerable degeneration and disturbance of the functions of the cerebellum.

In the case recorded by Parry[9] the ear conditions and symptoms of the patient were not sufficiently definite to form a prognosis for the operation. The route through the middle fossa and the petrous bone to the auditory nerve shows the danger of breaking the bone, as well as the danger of the unavoidable compression of the cerebrum. The patient recovered from the operation and was reported as slightly better on the whole. A year later the tinnitus was considerably better. The slow improvement in the tinnitus might suggest that the section of the auditory nerve was not a very positive factor in this change.

The cases cited by Krause, Wallace and Parry, taken together, do not throw much light on the subject. None of these cases shows proper care in locating the source of the tinnitus previous to the operation. In each of the cases, as far as we can learn from the description, the tinnitus might have been central. Moreover, all three operations are open to the criticism of unnecessary danger from injury to the cerebellum or to the facial nerve. The results of all the operations show that there was probably no direct connection between the irritation of the peripheral end of the auditory nerve and the tinnitus, because whatever improvement was noted came very gradually.

CONCLUSIONS.

The foregoing records justify the following conclusions:

1. Carefully selected cases of tinnitus, with the nerve stimulus located in the peripheral end of the auditory nerve, offer a good prognosis for cessation of the tinnitus after the section of the eighth nerve.
2. A technic which offers little inconvenience from hemorrhage, no danger from bony spicules, and a minimum of evil from compression of the cerebrum, or especially of the cerebellum, gives a good prognosis of recovery from the operation and in selected cases a cessation of the tinnitus.
3. If, after appropriate general and local treatment, grave tinnitus still exists, we are called on to recommend the section of the auditory nerve, provided the source of the tinnitus is believed to lie in the peripheral portion of the auditory nerve.
4. Section of the acoustic nerve will be as effective for the cure of aural vertigo as for peripheral tinnitus.

DISCUSSION.

Dr. John F. Barnhill, Indianapolis, asked if all the patients in whom parts of the auditory nerve were cut died from pneumonia, and if there was an explanation for two-thirds of the patients dying from this cause.

Dr. Bryant said in reply to the first question that one patient died of pneumonia after the operation, one died apparently of hemorrhage of the medulla, and the third was alive one year after the operation. In reply to the second question he said that he thinks it due to injury to the cerebellum, which seemed to be the primary cause.

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Following any surgical procedure there are many remote disasters occurring with sufficient frequency to keep the thoughtful surgeon on the lookout for these unforeseen complications for days and weeks, or until the patient's convalescence is at an end. The time of the occurrence of such complications varies from a few hours to several weeks after the operation. The change in character, from a postoperative hemorrhage to a phlebitis, begins from the second to the fifth week.

Inflammation of the saphenous or femoral vein following abdominal and pelvic operations, while rare, is met sufficiently often to be of much interest to surgeons engaged in this class of surgery. I have written to a number of the leading operators in this country asking for their personal experience with this condition in their postoperative cases, and I find by the replies that their experience is about the same as my own.

In discussing the causes of this condition one is confronted with the absence of postmortem and pathologic investigations, owing to the fact that very few of these patients die or have the diseased vein removed so that they can be examined by the pathologist. Anatomic peculiarities of the left common external iliac and femoral veins have been suggested as causes of the left side so frequently becoming the seat of a phlebitis. That the left saphenous vein is the vessel most frequently involved is true, but why this vein should be the one most often affected has not been thoroughly settled. Numerous theories have been advanced, but none of them, to me, appears tenable. The left common iliac frequently does not join at the usual place, but passes up on the left side of the aorta and enters the left renal vein. The left common iliac occasionally passes in front of the common iliac artery. In fact, when an anomaly exists in these veins, it is usually on the left side. The passage of the common iliac vein beneath the sigmoid has been mentioned as a causative factor because of the pressure on the returning blood from the left leg by an infected mass of feces in the bowel. A postoperative patient is not permitted to have an impacted sigmoid, as a rule. Malnutrition of the veins, the outcome of a venous stasis, is unquestionably a predisposing cause to a venous thrombosis, and a mild or severe infection at site of this thrombus is all that is necessary to inaugurate a secondary septic phlebitis.

One author (Favor) reports two cases of phlebitis of lower extremities resembling puerperal phlebitis, except that the patients did not have any fever, and thus, he says, the condition was non-infective. He considers such cases as due to the increase of "mineral matter in the blood, especially calcium salts, diminished oxidation, lessened elimination of urea, lessened alkalinity of blood and increased fibrin-forming material in the blood due to the puerperal state." His patients recovered within ten days. Constitutional causes usually act bilaterally, as was the case in these two patients.

The inguinal glands are among the most important glandular centers of the body. They are located in Scarpa's triangle and in close proximity to the superficial epigastric the superficial circumflex iliac, superficial external pudic arteries and their corresponding veins and the junction of the internal saphenous and femoral veins. These glands receive the cutaneous lymphatics of the abdominal walls below the umbilicus. Although these glands are in close proximity to the affected vein, they are very rarely enlarged during the attack.

The majority of the incisions for the removal of intraperitoneal pathology are made in the median line and usually slightly to the left, to avoid the wounding of the urachus. Admitting that an infection in this wound might lead to a phlebitis of left femoral, there yet remains, unexplained, why an incision over the gall bladder or appendix is equally as liable to produce the same complication in left leg.

Gerster, in an admirable article,[1] says: "It is significant that almost all of these mysterious cases of postoperative septicemia occur after 'interval' operations for appendicitis; that is, in those cases in which repeated attacks of a local sepsis have preceded and, presumably, have left behind deposits of an equivocal character." This statement was made in support of his position that in the so-called aseptic operations there exist, at the time of the operation, septic foci. This, I believe, is in part true, and, in the cases in which there existed no foci of infection at the time of the operation, the death of the distal end of tied-off tissues acted as a nucleus for the development of a mild type of local infection from the bacteria circulating in the blood at the junction of the dead and living structures. Phlebitis of these veins follows operations performed in other parts of the body than the abdomen, as the following case may incidentally illustrate. In the majority of the cases the left saphenous has been the vein involved. I operated on Mr. B. for gangrene of right lung. Two weeks later a phlebitis of left saphenous vein developed. He made a tardy recovery.

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That the left femoral and saphenous veins are chosen fields for bacterial colonization no one will doubt, after analyzing the location of the phlebitis in a large series of cases (Fig. 1). I am firmly of the opinion that these germs reach these selected points through the blood, after traversing the heart, lungs and arteries, and thus reach the walls of the veins and that the thrombus, when one forms, is formed as a secondary process. If the walls of the vein received the infection from the venous blood, thrombi would form earlier in the process of the inflammation, and the disease would be of a more serious character insofar as permanent injury to the veins is concerned. Loss of muscular aid in pumping blood toward the heart has been mentioned as a cause, but this would apply equally to both legs.

Keen has suggested that "the passage of the left common iliac vein under the right common iliac artery and under the left internal, might lead to a retardation of the venous blood in left vein and thus act as a cause of venous thrombosis (Fig. 2). When we recognize that the thrombus, when one forms, is usually secondary to the phlebitis in this locality, this theory of pressure on vein loses much of its weight. If the disease of the vein proper is secondary to the thrombus formation, as some authorities claim, there must be some anatomic arrangement favorable to the development of a thrombus in the left femoral and internal saphenous that does not exist in other veins of the body. If this local condition is due alone to a general gouty dyscrasia or to pathogenic germs circulating in the blood, it would be as liable to occur in the right leg as in the left; in both, or in other, veins of the body.

I do not believe that the cause is to be found in the general circulation alone. The walls of the vein are primarily attacked, hence the agent producing the phlebitis must reach the vessel walls either through arteries, lymphatics or, if the venous circulation, there must exist in this left vein a want of resistance to bacterial invasion that is not found in the right leg. Isolated spots of infection of the affected vein are frequently noticed, those farthest away from the body appearing last in most instances. Because of this, multiple thrombi may form in the vessel.

Most of the French clinicians believe that the process is primarily an infection of the venous walls. Maurice Richardson believes that it is especially liable to follow operations in the pelvis of anemic patients and that the disease is aseptic in its origin and in its course. Schenck reports 48 cases occurring in Johns Hopkins Hospital, being about 1.5 per cent. of all abdominal operations. Of this number 40 per cent. were for removal of uterine fibroids and the great majority were seemingly aseptic cases. Noble says: "Many cases of phlebitis can not be explained on the ground of infection. Phlebitis occurs in about 1 per cent. of all cases." Dunning: "Phlebitis occurs more frequently from a suprapubic than from a vaginal hysterectomy." Richardson: "I probably see ten a year. Usually follows operations in deep pelvis, most commonly hysterectomy. After clean operation." Carstens says: "I always consider all such of aseptic origin, although it is funny that you have no sepsis whatever in the wound, or apparently anywhere else." Welch was able in his laboratory to demonstrate the presence of bacteria in over 70 per cent. of these cases following typhoid. He believes that the thrombosis is due to localized infection of the vein's wall. In the rare instances in which the disease begins in the right leg it almost invariably will attack the left also.

It was maintained for a long time that the infection in phlebitis was transported by the white corpuscles to a thrombus already formed. The infection of a femoral vein following an abdominal operation does not appear to be one of extension by continuity from the pelvic structures. A thrombus may form in a vein from compression, as from a tense fascia, or lymphatic glandular pressure, or inflammation of perivenous tissue. In these cases, owing to the inflammatory thickening, it is not always possible to diagnose a thrombus by palpation or otherwise. Weakened heart action in debilitated patients is mentioned as one of the causes of thrombus in vessels farthest removed from the heart (marasmic thrombus of Billroth). Slowness of blood current and collapsibility of veins predispose the vessels to thrombus formation, because the collapsed walls or inflamed walls easily come in contact and a thrombus is thus predisposed, because of the fibrin deposited on one wall adheres to the opposite side and thus the canal of the vessel is occluded.

In reviewing the cases I find that about 30 per cent. followed operations for the removal of the uterus for fibroids. In all hysterectomies (abdominal) many ligatures are used and much tissue is compressed and later becomes necrotic, a septic cavity (uterine) is opened and no drainage is put in. The conditions left in pelvis are favorable for the development of a mild type of infection (local and constitutional) at the site of tied-off tissues. This would naturally occur about ten days or two weeks later. In vaginal operations (rarely followed by a phlebitis) the same structures are constricted, but here there is good drainage and Nature is not compelled to take care of the infected necrotic tissues by absorption.

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[2] American Journal Obstetrics, April, 1905.

In most of my cases the first symptoms of this complication have developed in the second or third week following the operation, regardless of the character of the case operated on. If there has been any difference at all, the phlebitis has followed operations for the removal of seemingly aseptic growths, as uterine fibroids, cirrhotic ovaries and interval operations for appendicitis. It would look as though the infection was either introduced through a defective aseptic technic or was due to the absorption of the pedicle at the site of the operation. To the latter theory I am disposed to lean, but this does not explain why the left vein should be most frequently involved, even though the operation was performed on the right side, as is the case in appendicitis, common-duct operations and right oöphorectomy. The usual onset of this condition is marked by a gradually increasing pain along some portion of the long saphenous vein, usually the left and most frequently just below the saphenous opening in the fascia lata. This pain may extend along the whole course of the vein and, as a rule, does follow the vessel below the knee. An elevation of temperature of from 2 to 3 degrees is noticed and a proportionately increased pulse rate is also observed. The pain in limb is increased by moving the limb or by permitting it to remain in a dependent position, and is partially relieved by elevating the leg and thigh. On examining, in many cases, there will be noticed a redness along the course of the inflamed vein or veins. If seen early, no perceptible swelling of the limb will be noticed, but within a few days, if the case is a severe one, the whole limb will be swollen, but more particularly the calf of the leg. This swelling is uniform and free from discolorations or redness, in fact, the surface is blanched. Pressure along the course of the vein elicits tenderness, and in the calf of the leg the tenderness is found all over the posterior surface. The vein is hardened and rolls under the fingers like a tendon in many cases. Pressure, if continued for several minutes, may produce pitting, but not so well marked as in the dropsical affections. Except along the course of the superficial portion of the vein, which may feel unnaturally warm, there is a deathlike temperature of the surface to the examining hand. This condition must not be confounded with a postoperative neuritis of the internal and middle cutaneous or the musculo-cutaneous nerve on outer side of leg and dorsal surface of foot, as illustrated by the following case:

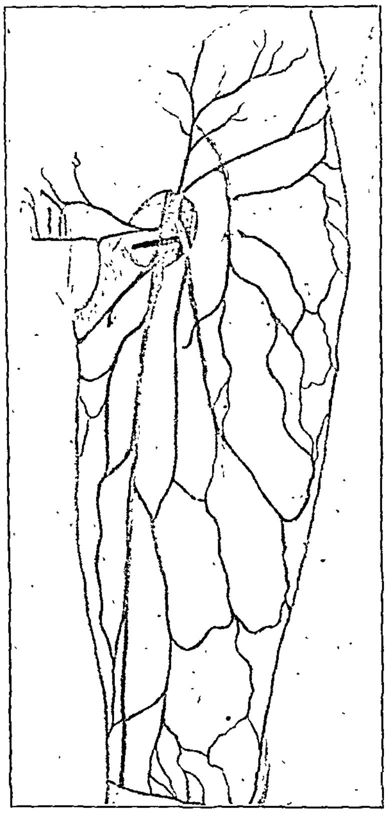

Fig. 1.—The left saphenous at its entrance into the femoral is most frequently the point first affected.

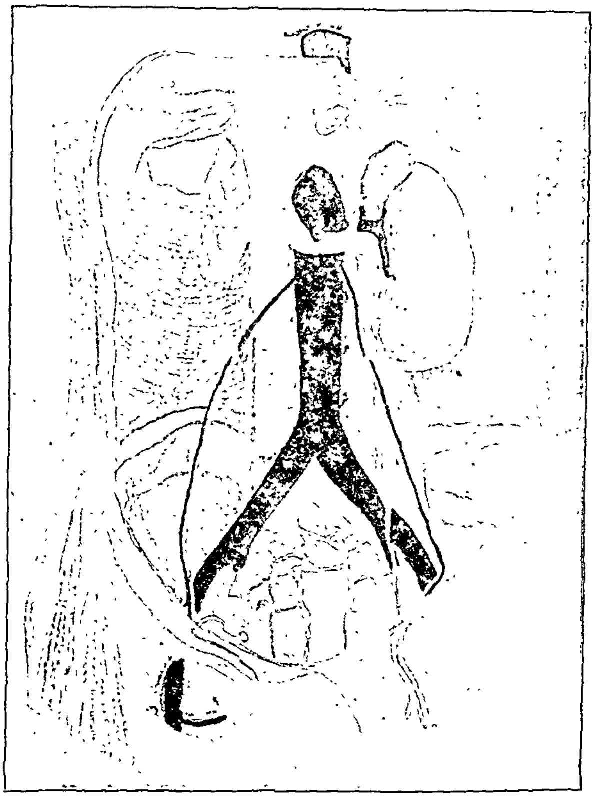

Fig. 2.—Keen says: "The passage of the left common iliac vein under the right common iliac artery might lead to a retardation of blood in vein, and thus favor a left saphenous or femoral thrombosis."

Case 1.—Mrs. B., aged 36, nullipara, complained of some pain near exit of right great sciatic nerve, at its exit from pelvis. Examination showed a small ovarian cyst. This was removed by abdominal route. Her progress was smooth for the first three weeks; then she developed the following symptoms and condition: a rapidly spreading pain over areas of distribution on internal, middle and musculo-cutaneous nerves, tenderness over limited areas, firm pressure seemingly better borne than a gentle touch. Leg swollen, but not uniformly, does not pit on pressure, as no edema was found. Position does not appear to increase or diminish the swelling. The leg to the touch feels natural in as far as concerns the temperature. Cold air increases the pain. No elevation of temperature or increase in pulse rate. Six months later I examined this woman and found her in perfect health.

Case 2.—Mrs. Z., aged 33; nullipara. No history of sepsis in pelvis or abdomen. Uterine fibroma. Hysterectomy. Incision in abdomen healed aseptically. On the eleventh day after operation she first complained of pain near the junction of saphenous and femoral veins. This pain soon extended to the calf of the leg. Tenderness developed along the course of saphenous to inner side of knee, later into calf; redness developed along course of upper portion of the vein. At end of four days a cord-like hardness could be made out along course of the vein. Her appetite was much impaired, tongue coated, pulse 96, temperature 100 to 101. At the end of a week the thigh and the leg were much swollen, with no general redness. Pain and swelling increased by dependence of leg. The acute febrile symptoms subsided at the end of ten days, but left the leg tender and swollen. At the end of three weeks from beginning of phlebitis she left the hospital. The leg continued tender for several months. Two years later I found the left leg one and one-half inches larger than the right. No visible enlargements or tortuosity of veins.

Case 3.—Mr. E.: chronic appendicitis; interval operation; postoperative left saphenous phlebitis. This young man, aged 21, had suffered from mild recurring attacks of appendicitis for three years. Operation in interval of attacks. Usual postoperative history, fourteenth day, when he noticed a soreness in left leg along course of internal saphenous vein, extending to calf of same leg. Temperature 101, pulse 100. Tenderness along vein, slight swelling of leg. Symptoms subsided at end of two weeks and he left about well, save a slight stiffness about leg and thigh. A year later I found him entirely well.

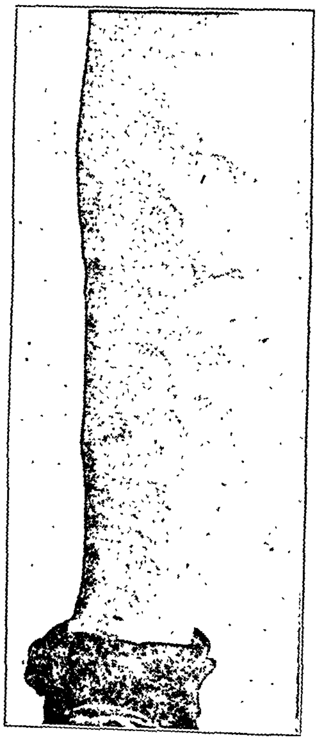

Fig. 3.—Varicosity of veins of left leg from a descending phlebitis of saphenous vein following an "interval" operation for appendicitis.

Byron Robinson[3] reports a sudden death following the flexing of the thigh on the abdomen in a patient on whom seventeen days previously he had performed a vaginal hysterectomy. The autopsy showed a phlebitis of left ovarian vein, and an occlusion of pulmonary artery with elongated spindle-shaped blood clots.

Dr. Lucy Waite reports a very similar condition following an abortion. The phlebitis in this case was also in left ovarian vein.

Dr. John G. Shelton, Telluride, Colorado, reports a case of phlebitis of left femoral vein following an aseptic appendectomy. Phlebitis began on the thirteenth day after operation. He also reports a case, in the practice of a neighbor physician, of left phlebitis following an interval operation for appendicitis.

Dr. Second had this complication in one of his cases (left femoral) following a clean herniotomy.

Cullen reports that on the twenty-first day following a vaginal hysterectomy one of his cases developed a phlebitis of left femoral vein. The next day she had a severe pain in the right side of the chest and crepitant râles and pleuritic friction sounds were detected. This patient recovered and the tenderness of vein and abnormal chest sounds disappeared. There was evidently an embolus, which found its way from femoral vein into right lung near its pleural surface. Cullen reports other cases in which the femoral and popliteal veins have been affected following operations for cancer of uterus.

Dr. A. L. Brittin, Athens, Ill., reports a case of acute fulminating appendicitis, followed by a phlebitis of left saphenous, the latter beginning on the twenty-third day after operation and was accompanied by frequent attacks of dyspnea lasting several minutes. This case recovered.

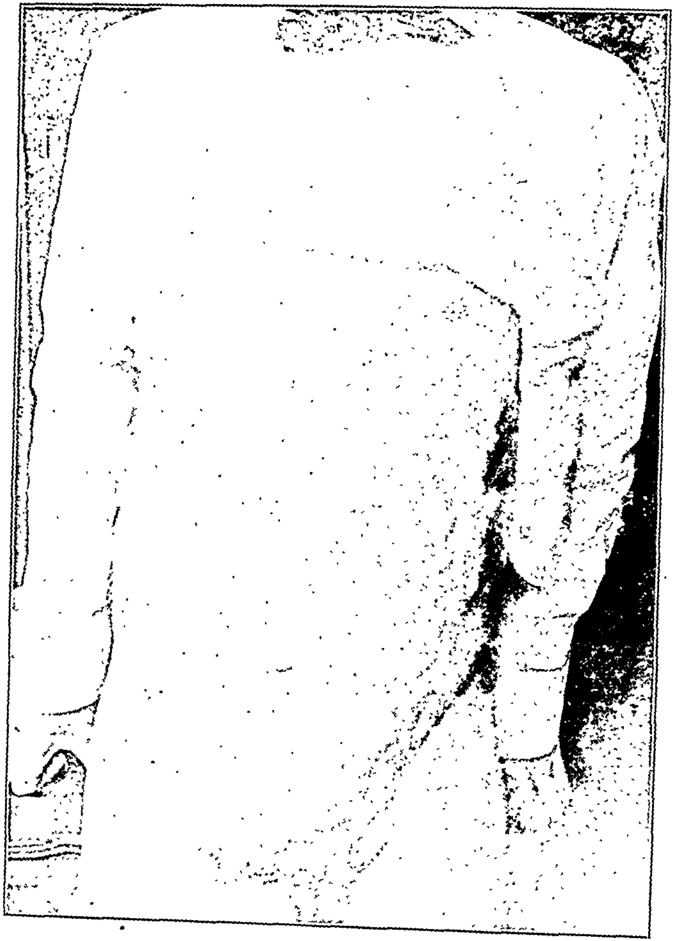

Fig. 4.—Occlusion of left common iliac vein from an ascending saphenous phlebitis following intravesical manipulation.

Dr. W. S. Thayer, Baltimore, in an admirable article on post-typhoidal thrombosis, says that in 39 cases of venous thrombosis, 26 cases occurred in left leg, 9 cases occurred in both legs, 5 cases occurred in right leg, 2 cases occurred in leg not recorded. He concludes his article by the statement: "It seems to me that the evidence is decidedly in favor of the idea that these cases of venous thrombosis are for the most part due to a primary phlebitis.

Heller reports 2 cases of phlebitis following a gonorrhea in a male patient, in both patients the left saphenous was the vein involved.

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[3] Med. Rec., June 14, 1905.

somewhat akin to the reason for the prevalence of varicocele on the left side and the frequent affections of the left ovary in women. Many gynecologists claim that this is due to the fact that the left spermatic vein in man and left ovarian vein in women enter into the splenic vein at a right angle, whereas the right spermatic vein in man and the right ovarian vein in women enter into the vena cava almost directly, so that the venous flow going from the left testicle or left ovary passes around a right angle. This should be thought of in this connection.

Dr. A. H. Cordier said that Dr. Goldspohn's remarks would be applicable were this condition of thrombus of a primary character. This is not the case, it is secondary to the inflammatory conditions in the venous wall. The anatomic character could be easily explained were it of a thrombotic nature, but it is not of thrombotic origin. It is simply a mild type of infection. Inflammatory changes take place in the venous wall and this condition is secondary thereto.

SITE OF ORIGIN OF GALLSTONES.*

L. L. McARTHUR, M.D.
CHICAGO.

If excuse were necessary for again raising the discussion relative to the site of origin of gallstones, it might be found in the evidence offered by the actual specimen I herewith present, as well as by the anomalies its unique clinical history offers. So startling were the findings both at the time of operation and at necropsy that I feel justified in claiming your attention while presenting them for your consideration. I will first give as briefly as possible an abstract of the clinical history, leaving for future publication the more complete details, temperature chart, analysis, etc., and then such conclusions as may be drawn from the review of the current literature.

Patient.—M. G., Austrian, aged 25, clerk, single. Admitted to Michael Reese Hospital Nov. 28, 1904. Died Dec. 12, 1904, fourteen days after admission and on the twenty-third day of illness.

History.—Family history negative. Past history, "Always well and strong." Denies all previous sickness. No venereal history. Drinks some, but not to excess.

Present trouble of ten days' duration. Patient states that he "caught cold" two weeks previous to onset. Onset was sudden, with severe, cramp-like pain in right hypochondriac region. Pain localized and aggravated by deep inspiration and coughing. Tenderness on pressure. No icterus. Had a chill on third day, followed by high temperature. No nausea or vomiting, though an emetic had been given to induce vomiting. Appetite good until recently. Bowels regular. No hemoptysis. No night sweats. No urinary trouble.

Examination.—When patient entered hospital the physical examination showed only a slight tenderness in the epigastric region just below ensiform. Skin chocolate colored. Spleen palpable. Temperature 102.4 (rectal), pulse 92, respiration 20, leucocyte count 10,300; Widal partial. During his first ten days in the hospital his temperature ranged from 99 to 103. On the tenth day he had a chill lasting fifteen minutes, followed by a sudden rise of temperature to 105.6, dropping to 102.6 in an hour after being sponged, pulse ranging all the time from 70 to 90.

Six days after admission to hospital patient had an attack of severe epigastric pain with a slight icteric hue to skin. Small round tumor about the size of an egg was felt in the region of the gall bladder. Rectus muscle tense on right side. No radiation of pain to shoulders, but passes to back and lower thoracic region.

On the twelfth day he had another chill, followed by temperature of 105.6; leucocyte count 19,000, Widal partial. Urinary examination showed albumin, bile, hyaline, granular and epithelial casts.

Operation.—On the following morning, twenty-three days after first symptoms, he was transferred to the surgical department and immediately operated on. Operation under ether anesthesia. Bevan incision revealed a moderately distended gall bladder. No peritonitis. Palpation of common duct in the usual manner revealed a hard cylindrical tube one and three-quarter inches in diameter, which gave the impression of grasping the bodies of the vertebræ, so large and so hard was it. On opening the common duct after the usual packing off, by an inch incision, there escaped innumerable gallstones (246 were counted) of pea size, floating not in bile, but in pus of the same stinking character as characterizes an appendiceal abscess. As fast as the stones could be ladled out with a large gallstone spoon, more would appear, until, considering the desperate condition of the patient, it was deemed advisable to remove only those obstructing the duodenal end of the common duct. Two fingers could be passed along the duct. Large drainage tube inserted in the duct after the gall bladder had been emptied of a semi-translucent mucopurulent fluid and drainage provided. Closure of abdomen in usual manner with gauze supplemental drainage.

We have, then, in this case these remarkable facts: First, the total absence and denial of any former serious illness or infective fever. Second, with innumerable stones in ducts, but none in gall bladder, the patient had never a colic until his final illness. Third, the fluid first escaping from the incision in the common duct instead of bile was stinking colon bacillus pus. Fourth, the absence of stones in the gall bladder, coupled with the denial of ever having had a pain or an ache prior to his last illness, is sufficient evidence that these stones had never been in the gall bladder. Fifth, the postmortem findings demonstrate the existence of innumerable stones in the finer intrahepatic ducts, diminishing in size regularly as the ducts grow smaller.

A partial postmortem examination permitted fourth day after operation revealed:

First. Absence of general peritonitis.

Second. Drainage of gall bladder and common duct in site and efficient.

Third. Dilatation of the common duct excessive, permitting passage of three fingers.

Fourth. Narrowing of cystic duct but not complete occlusion.

Fifth. Many small stones still in common duct.

Sixth. Suppurative cholangitis extending into lesser hepatic ducts.

Seventh. Wherever incision is made into substance of the liver, calculi of varying size are to be seen in ducts.

Eighth. Death from septic cholangitis.

On analysis, gallstones consist of cholesterin alone, bilirubin calcium alone, or varying proportions of both, with cholesterin usually predominating. While bile normally contains minute traces of cholesterin, it never contains, in health, bilirubin calcium. The physiologic chemist, in recent years, has demonstrated that the source of cholesterin is in degenerative process affecting the cell protoplasm, columnar epithelium being that most prone to undergo this metamorphosis, hence the presence of cholesterin in various secretions like those of the bronchi, the nose, in the steatomata of the ear, the bile tracts, or in those neoplasms lined by columnar epithelium.

The biologist has demonstrated experimentally and the pathologist found by his research at necropsies that the influences necessary to induce these degenerative changes are resident in the protoplasmic poisons of somewhat attenuated bacterial organisms. When such irritants act on the epithelia, the latter are found to un-

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Dr. Trumbull, Valparaiso, Chili, reports a case of left saphenous phlebitis following a follicular tonsillitis.

Detachment of the thrombi, where such is formed, in these cases, is extremely rare, yet has occurred with a frequency sufficient to warn us in the management of these cases to avoid all known causes leading to pulmonary or cerebral emboli. These thrombi usually are non-suppurative, hence are not likely to undergo deliquescence and become detached from their moorings. A recognition of this fact admonishes us to avoid all mechanical methods that might lead to a forcible detachment of the thrombus, such as massage, too early muscular exertion, etc. Some of the postoperative pneumonias are undoubtedly due to infected emboli carried from inflamed and thrombolic veins. A more fatal condition may be brought about by an embolus in the brain from the same source.

Venous obstruction from a thrombus may lead to gangrene of the limb by an extension of the obstruction in both directions, thus preventing all collateral circulation. A termination so serious is extremely rare. In fact I have been unable to find such a case recorded where the phlebitis followed an abdominal operation. Where the disease extends or involves the internal iliac and obliterates that vessel, as it has been known to do, the anastomotic circulation is carried on through the internal mammary, the superficial epigastric, the external pudic and its corresponding vessel of opposite side. (Fig. 4.) Nature seemingly gets rid of the thrombus in this position by the same process of absorption as is the case with the fibrin extravasated in other tissues.

Massage should not be used in the early history of the disease for fear of dislodging fragments of a thrombus, thus causing embolic, pulmonary or cardiac symptoms of an alarming character or even sudden death. A patient suffering from a phlebitis should avoid all undue or violent exertion, as the detachment of a fragment of a thrombus may result in a fatal embolic injury of a cardiac or respiratory center in the floor of a fourth ventricle or a multiple infection of lung or other remote organs.

An increase of the calcium salts in the blood has been mentioned as a probable source of phlebitis and venous thrombosis, by increasing the coagulability of the blood. Sodium citrate has been recommended as a prophylactic agent by its tendency to decrease the powers of the blood to coagulate. Tavel recommends ligation of saphenous above inflamed portion in order to prevent embolism, a procedure I feel that will rarely, if ever, be necessary.

The acute symptoms of a phlebitis usually disappear within a few weeks under proper management, while the late history is one of a tedious recovery and the use of the elastic stocking extending over a period of months and sometimes years.

Elevation of the affected limb and bandaging it loosely and keeping it moist with witch-hazel or other cooling lotions, constitutes the local treatment for the acute phlebitis. The administration of cathartics and tonics completes the treatment of ordinary cases. Later, massage and the use of an elastic stocking may be necessary.

From various sources I have collected 232 cases. The tables appended show some very interesting facts. Of the 232 cases, phlebitis followed the following operations the number of times stated:

Nephrorrhaphy	9
Appendicitis, mostly so-called aseptic cases	27
Cholecystotomy	4
Oöphorectomy (cystic, cirrhotic, etc.)	16
Hysterectomy fibroids, so-called aseptic cases	69
Vaginal operations, character not stated	8
Alexander's operation	3
Hernia	4
Pyosalpinx	7
Pelvic operations, not specified	9
Abdominal and pelvic, character not stated	56
Ectopic pregnancy	4
Vaginal hysterectomy for cancer	9
Suspension of uterus	7
Splenectomy	1

SPECIAL FEATURES.

In 213 cases, left saphenous or femoral veins were affected.
In 8 cases, both left and right veins were affected.
In 11 cases, right veins alone affected.
In 182 cases, proximal part of vein first affected.
In 36 cases, distal part of vein first affected.
In 14 cases, portion of vein affected not mentioned.
In 166 cases, sepsis was not present at time of the operation.
In 56 cases, no mention of sepsis or asepsis was made.
In 10 cases there was pus present at time of operation. In the great majority of cases, the first symptoms appeared from the tenth to the fifteenth day.
In 6 cases, pleuritic and lung complications.
In 3 cases, sudden death occurred.

DEDUCTIONS:

1. This complication occurs in about 2 per cent. of all abdominal operations.

2. It follows operations on anemic patients most frequently, as in abdominal hysterectomies for bleeding fibroids.

3. Vaginal hysterectomies for the same conditions are rarely followed by this complication.

4. It is more liable to follow so-called aseptic operations where no drainage is used.

5. It is due to a mild type of infection and often to absorption of the necrotic pedicle at site of operation.

6. The disease attacks the left femoral or saphenous veins in over 90 per cent. of the cases.

7. Anatomic peculiarity of veins on left side have not been found that satisfactorily explains why the disease has a predilection for left side.

8. That a *locus minoris resistentiæ* exists in left saphenous and femoral veins is proved by the frequency of the involvement of these veins.

9. The disease is, primarily, an inflammation of the walls of the veins and the thrombus, when one forms, is secondary, as a rule.

10. Many cases of postoperative pneumonias, pleuritis and cerebral emboli have their origin in this source.

11. Treatment consists in elevation of affected leg, tonics, etc.

I wish to return my sincere thanks to the following surgeons, who have aided me very much in the preparation of this paper by sending me the reports of their postoperative cases of phlebitis and otherwise: Drs. Wm. S. Thayer, Maurice Richardson, Benjamin R. Schenck, A. H. Vander Veer, Weller Van Hook, Franklin E. Martin, Byron Robinson, A. J. Ochsner, A. H. Ferguson, W. J. Mayo, W. W. Keen, Wesley Bovée, W. D. Haggard, L. S. McMurtry, J. B. Murphy, Joseph Price, E. E. Montgomery, R. B. Hall, M. B. Ricketts, Edwin Walker, S. E. Lanphear, W. B. Dorsett, L. H. Dunning, H. L. Longyear, C. P. Noble, H. A. Kelly, J. M. Baldy, J. H. Carstens, R. T. Morris and A. C. Bernays.

DISCUSSION.

DR. C. O. THIENHAUS, Milwaukee, Wis., said that several years ago Lennander, from Upsala, published a paper on thrombosis and phlebitis of the lower extremities following operation and stated that this occurrence could be avoided by keeping the patient in the Trendellenburg position for from eight days to two weeks immediately following the operation. For the past four years Dr. Thienhaus has done this in all cases in which there is reason to believe that there might be a tendency to thrombosis of the lower extremities.

DR. A. GOLDSPOHN, Chicago, said that the reason for the greater frequency of this condition on the left side may be somewhat akin to the reason for the prevalence of varicocele on the left side and the frequent affections of the left ovary in women. Many gynecologists claim that this is due to the fact that the left spermatic vein in man and left ovarian vein in women enter into the splenic vein at a right angle, whereas the right spermatic vein in man and the right ovarian vein in women enter into the vena cava almost directly, so that the venous flow going from the left testicle or left ovary passes around a right angle. This should be thought of in this connection.

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We have, then, in this case these remarkable facts: First, the total absence and denial of any former serious illness or infective fever. Second, with innumerable stones in ducts, but none in gall bladder, the patient had never a colic until his final illness. Third, the fluid first escaping from the incision in the common duct instead of bile was stinking colon bacillus pus. Fourth, the absence of stones in the gall bladder, coupled with the denial of ever having had a pain or an ache prior to his last illness, is sufficient evidence that these stones had never been in the gall bladder. Fifth, the postmortem findings demonstrate the existence of innumerable stones in the finer intrahepatic ducts, diminishing in size regularly as the ducts grow smaller.

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The biologist has demonstrated experimentally and the pathologist found by his research at necropsies that the influences necessary to induce these degenerative changes are resident in the protoplasmic poisons of somewhat attenuated bacterial organisms. When such irritants act on the epithelia, the latter are found to undergo degenerative changes, with swelling of the cells, formation of myeloid bodies within the protoplasm, rupture, discharge of contents, and the subsequent appearance of cholesterin in the débris. Thus, in the lower animals, by attenuated cultures of the colon bacillus introduced in the gall bladder, it has been easy to induce such changes in the epithelium as to greatly increase the cholesterin contents of the bile tracts, with resulting cholesterin-stone formation. Active, unattenuated cultures of the colon bacillus or staphylococcus induce inflammatory changes, with pus formation and precipitated bile salts, but no stone formation, no cholesterin.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Bilirubin, the coloring matter of the bile, a sulphur-containing albuminoid derivative, is soluble in the soda salts of the bile. It is a product of the activities of the liver cell in health, not a degeneration product, which, under certain conditions, may be precipitated with a calcium base, making an insoluble body, bilirubin calcium, the other important constituent of the second group of gallstones. These conditions, as is the case with cholesterin, are most often those of bacterial fermentative action, though conceivable as occasionally due to a pathologic condition of the hepatic secretions, incident to age, poor metabolism, alkalinity of the bile, and the consequent precipitation of bilirubin calcium. The source of bilirubin, then, being in the hepatic cells themselves, the formation of bilirubin calcium stones is rendered possible in the very smallest bile ducts. This is most frequently the type of those stones found intrahepatically, as of the case submitted. The source of the calcium base with which the bilirubin combines, when precipitated by bacterial or other influences, is as yet a mooted question. Calcium salts exist in the bile normally, but normally do not combine with bilirubin. If, however, bacterial fermentative changes be induced in the bile, with consequent diminished alkalinity, bilirubin calcium is precipitated. Thus, it will be seen bacterial influences are the determining factors of stone formation, whether they be of cholesterin or bilirubin calcium. Of the former in the gall bladder and common ducts more especially; of the latter in the intrahepatic ducts, *probably*; in the gall bladder and common ducts *possibly*.

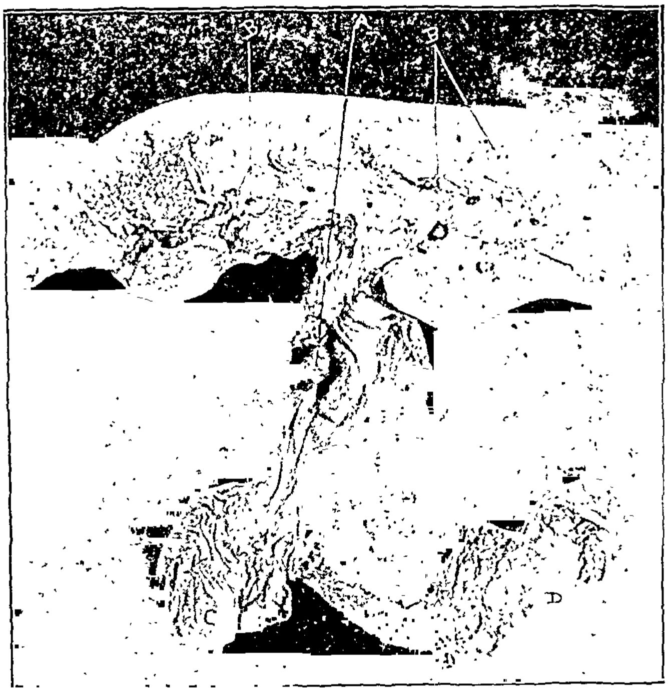


Fig. 1.—Frontal section of left lobe of liver with common duct leading down to duodenum and pancreas. Gall bladder removed. Notice: A, Large stones in common duct. BB, Intrahepatic stones in the different radicals. C, Duodenum. D, Pancreas.

We have thus seen the source of the gallstone constituents, but have considered only one of the factors essential to stone formation, which, taken alone, will never produce stone. There must be the other factor of stagnation of the bile stream either in the gall bladder and its mucoporous crypts or the ducts. If this be intermittent in character the growth of the stone will also be intermittent, and a laminated stone result. If continuous, the stone presents a more constant composition. It should be distinctly understood that stagnation alone, however produced, will not produce either variety of stone, but that to it must be added a mild bacterial infection, so mild as not to induce inflammatory reaction in the lining of the gall tracts, but sufficient to induce degenerative changes in the epithelial linings, or a diminished alkalinity of the bile by a fermentative change in its constituents, or both. The stagnation in the stream may be inflammatory, neoplastic, or in various ways mechanical, need not be continuous, must not be absolute. Since the flow in the gall bladder is not as active as in the ducts themselves, this is the site of election of the stone formation in many cases, but not, as well-known authorities yet teach, the only place.

The labors of Herter, Miyake, Welch, Hanot, Miszkowski, Chiaro, Gilbert and Cushing have, by an immense number of experiments, demonstrated the truth of the statements so far made, a review of which at this time is inopportune.

Of immense interest, however, is the nature of infective stone-forming elements and their manner of ingress into the bile tracts. This has been now demonstrated to be possible, either through a direct extension up the tracts from the intestines, or by a direct elimination with the bile, of organisms for the time being infecting the blood of the individual. It has long been known as true that the typhoid and other organisms can be recovered in the urine of the infected patient. It now is known that organisms are similarly eliminated by the liver cells, appearing in the bile, to excite, if very virulent, perhaps an acute cholecystitis or cholangitis; if attenuated by their passage through the blood, to slowly induce those changes in the mucosa favorable to the production of cholesterin, and act mechanically as nuclei for stones after having undergone the "clumping" influences which obtain in typhoid serum and secretions. Especial emphasis is here made to the typhoid organism as a factor in the formation of gallstones, first, because it was the earliest demonstrated organism to act thus; second, because 20 to 30 per cent. of all typhoids are followed by gallstones; and, third, because, while not particularly provocative of suppurative processes, it has shown itself to have a wonderful vitality, living in the human as long as 26 years (Billings). Its continued presence in the gall-bladder crypts slowly provokes those degenerative changes before referred to which result in the production of cholesterin.

When, on the other hand, the bacteria of the intestine gain access to the bile tracts by direct extension up the ducts, as can be so beautifully observed in the extension up Steno's duct in typhoid, they usually excite, as they do in the parotid, acute suppurative or gangrenous processes, and we have the presence of acute typhoid gangrenous cholecystitis produced by the same organism which, more attenuated in character, will produce stone.

What has been said of the typhoid organism occasionally obtains with the colon bacillus, and the nuclei of various stones proven to consist of them.

CONCLUSIONS.

1. All gallstones do not originate in the gall bladder.
2. The origin of cholesterin stones is probably in the gall bladder, with subsequent growths either in gall bladder or ducts where they may lodge.
3. Bilirubin calcium is the constituent of the smaller intrahepatic duct stones.
4. Calculi in immense numbers may have existed for months in the ducts without producing a symptom.
5. The surgeon need not reproach himself too much if there be recurrence of the symptoms after common duct drainage.

DISCUSSION.

Dr. C. O. Thienhaus, Milwaukee, Wis., agreed with Dr. McArthur that gallstones not only form in the gall bladder and in the cystic duct, but in the hepatic and common ducts as well, and that in those cases it is difficult to decide whether to perform a cholecystectomy or a cholecystostomy. Cholecystostomy, he said, is a much more justifiable operation because of the lesser danger connected with it.

Dr. M. H. Richardson, Boston, said that one of the most important points in connection with the surgical treatment of gallstones is the impossibility of finding and removing those concealed in the hepatic duct. The surgeon, therefore, should not reproach himself if, after he has removed all that he can find, symptoms pointing to other stones continue. The combinations in biliary diseases are numerous—the complications greatly exceeding those of disease of the appendix. Of gallstone disease we really know but little, and for what knowledge we have we must depend largely on the surgeon's observation of pathologic conditions during life. He has been strongly impressed by the importance of making observations, not only as to the seat of origin of gallstones, but as to symptoms caused by stones the situation and other attributes of which have been thus demonstrated. That gallstones are not always formed in the gall bladder itself two or three of his cases have clearly demonstrated. He illustrated the situation and probable seat of origin of the stones by blackboard sketches. In one case the stones were undoubtedly formed in the liver. In one instance, after the removal of a large number of stones from the dilated hepatic and common ducts, 150 were discharged through the tube; in another, after the removal of many stones from a hepatic duct as large as a gall bladder, each primary division of the hepatic duct was drained separately and the amount of bile from each half of the liver determined. In this case, as the diagram shows, the nidus of gallstones was perhaps the gall bladder, and the dilatation of the hepatic duct may have resulted from obstruction of the common duct by multiple stones. The practical point in connection with the seat of origin of gallstones is that the exploratory incision should be large enough to admit the hand. It is only in this way that the biliary tract can be extensively and thoroughly examined.

Dr. Robert F. Weir, Hague, N. Y., suggested another way of getting large incisions other than the one Dr. Richardson showed. The long vertical cut is made, but to achieve the ample room desired for free manipulation and vision of the anterior sheath of the section is divided transversely, the muscle pulled strongly to the left—when its posterior sheath is likewise divided transversely—this gives a large increase of operative space, but if more should be demanded the muscles of the abdominal wall to the right of the ventral invasion can be separated as has been shown by Dr. Richardson. The divided layers of the rectal sheath at the close of the operation are sutured, and this, with the replacement of the muscle, re-establishes the integrity of that portion of the abdominal wall. This procedure is similar to Dr. Weir's method in appendicitis incisions.

Dr. L. L. McArthur said that a very large drainage tube was introduced into the common duct in the case referred to, for several days gallstones kept pouring out; in fact, they came so constantly during the operation that the search finally had to stop. Dr. McArthur concluded that no reproach should be made against the surgeon if he has carefully explored the common duct, as the origin of the stones might be far out of reach, even when the surgeon has gone into the liver substance to a great depth. One can not always get all the stones no matter how careful the search.

Clinical Reports

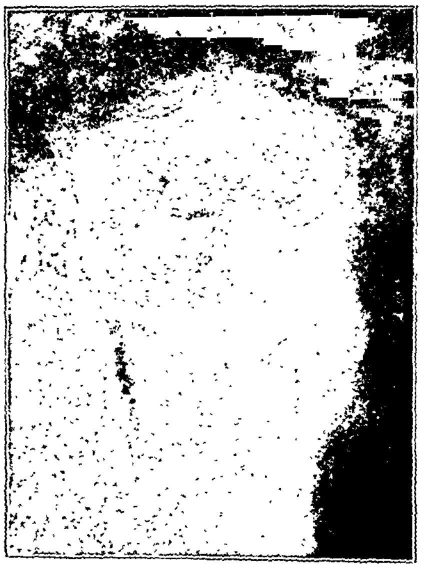
CONGENITAL MALFORMATION OF THE LEFT AURICLE AND OF THE EXTERNAL CUTANEOUS CANAL.*

EMIL AMBERG, M.D.

DETROIT.

Patient.—Mr. A. S., Russian, aged 32, was seen by me Oct. 13, 1905. He comes from Sakolko, in Grodno, Russia, and has been in the United States about six months. He is the father of three children who, according to his statement, are free from any malformation.

Description of Malformation.—The left auricle, as shown by the accompanying illustration, is arrested in its development. The ridge is 4.6 cm. long. The width varies from 11 to 7 mm., the height from 7 to about 5 mm., the lowest portion being about the middle of the ridge, which consists mostly of cartilage. Four distinct, blind and narrow canals can be made out by the probe. Two are found in the anterior fold between the cartilage and the skin, the first 11 mm., the second 28 mm. from the top, both pointing upward and backward, the first of them being about 5 and the second about 7 mm. long. A third canal is found in the middle of the ridge about 13 mm. from the top, showing scarcely any depth, and a fourth one in the posterior fold 22.5 mm. from the top presenting practically no depth. Besides these there are slight intimations of two canals in the posterior fold, one 29 and the other 34 mm. from the top, exhibiting only a trace of depth. The osseous canal seems to be filled with fibrous and cartilaginous tissue. The mastoid process is well developed.



Showing malformation of left auricle.

Hearing.—Politzer's acoumeter is heard about one inch from the left ear by air conduction, and around the canal by bone conduction. Blake's 512 tuning fork is not heard by air conduction, but by bone conduction. The Weber test is localized in the right ear. Hartmann's 4096 tuning fork is neither heard by air nor by bone conduction. The right ear appears to be normal.

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* Demonstrated before the Wayne County (Detroit) Medical Society, 1905.

CASE OF INFECTION WITH THE RAT-TAILED LARVA OF THE DRONE FLY.

E. L. K. HANBY, M.D.
Surgeon to Sloss Sherfield Steel & Iron Co.; Assistant Surgeon to Louisville and Nashville Railway, Alabama Great Southern Railway, Southern Railway, and the Birmingham Railway Light and Power Co.
BESSEMER, ALA.

Dr. Boston, Philadelphia, found on postmortem in a child which died in convulsions and great agony a parasite, which he sent to Professor Stiles of Washington, D. C., who replied that the specimen was a species of the genus *Helophilus* or *Eristalis.* Dr. Boston gives no history or treatment of his case further than that the child died in great agony and convulsions. With the exception of this case I fail to find that any other author mentions this species of parasite. I feel that this disease is very grave and that perhaps it is often met without being recognized. The case which I wish to report came under my personal observation, and the pain and agony was something terrible. I have never seen any human being suffer more than did this child.

History.—On Sept. 12, 1905, I was called to see a little negress 18 months old, at Sloss Mines, Ala. The child was sitting in its mother's lap, crying loudly and pulling out the hair from the front of its head; the eyes were glaring. The child seemed to be terribly frightened; saliva was pouring from its mouth, and it had the appearance of an insane child. The child's mother could do nothing to quiet her. I gave the patient a hypodermic of morphin, 1/16 of a grain, and in ten minutes she was quiet, so I proceeded to examine her further. The mother told me that the child had suffered three weeks previously from teething, so her physician had told her, but he had treated her ever since without any apparent result, and the child had continued to grow worse. She would crawl on her abdomen, and in this position she would stop crying and seem to be easy, and would finally drop off to sleep for a period of half an hour. She would then awake in great pain, and very much frightened and nervous. She cried continually, pulled her hair and scratched her buttocks. These attacks of agony would last from 15 to 30 minutes and then she would be quiet for about one hour, except that she would be very fretful for an hour or two.

The surroundings were very good; the location of the house is 635 feet above sea level. The water is taken from a covered natural spring. The child's diet consisted of fried ham, bacon, eggs, greens, Irish potatoes and cornbread; she also drank a great deal of buttermilk.

Examination.—The child was very anemic and emaciated; the eyeballs were sunken far back in the socket. Temperature was 99.8; pulse 88. The tongue was coated, moist and trembling. The lungs were in good condition except for a slight cough; the heart's action was good. The abdomen was very much distended, and was tense like a drum. The child was having and had had for the past two weeks, frequent passages of mucus, with great tenesmus; moving of bowels did not relieve the pain. The child passed about 32 ounces of urine a day, and on examination I found the specific gravity 1.026; reaction, acid; no sugar nor albumin, but an excess of phosphates. There was no pain on urination.

Treatment.—I prescribed (and with good results:)

℞. Hydrarg. chlor. mitis.............grs. iii 2|
Santonin ....grs. iss 1|
Mt. et. ft. chart. No. 3. Sig. 1, powder every 2 hours.

This was followed by a tablespoonful of castor oil and two drops of turpentine.

Result.—Six hours afterward she passed twenty-four live worms, which lived two and one-half days without food. These worms or parasites were grayish in color, one and one-half inches long, from head to tip of tail, and half an inch in diameter. They had two horns, one on each side of the head, sucker-shaped mouths, and were very vicious; they would snap at a straw or at anything held close to the head. The tail of each was one-half inch in length and had a stinger or horn on the end of it. The tail was held straight up when crawling, and the worms could crawl very fast. These worms looked very much like new-born mice, with the exception of the legs, which were very much like those of a thousand-leg worm. After the passage of the worms, the child rested well that night; the next morning her mother showed me the worms. I was utterly astounded and told her that I knew no human being could pass mice, which they resembled very much, so she brought in enough eye witnesses to convince me that she spoke the truth. I gave the child the following:

℞. Hydrarg. chlor. mitis ....grs. iii 2|
Salol |
Santonin, āā ....grs. iss 3|
M. et. ft. chart No. 3. Sig., 1 powder every hour.

This was followed by one tablespoonful of castor oil. In four hours the child passed four more worms; they were dead. Since that time (Sept. 13, 1905) she has passed no more worms to date (Oct. 27, 1905). And at present is in good health and is gaining in weight rapidly. She sleeps well at night, and is entirely well, in my opinion. As an after treatment, I gave her calomel in broken doses, 1/6 grain once a day for seven days, and followed this with a tonic of iron, strychnin, quinin and cod-liver oil. She is taking this tonic now.

[The parasite in question is the "rat-tailed" larva of the drone fly (*Eristalis tenax*), or of some closely allied form. The drone fly is common about flowers. The larva lives in foul water, feeding on decaying vegetable matter. The tail is a telescopic tube which can be lengthened or shortened as necessity dictates; at its end there is a rosette of hairs which may spread out on the water and keep the larva from sinking; through this tube the larva obtains air when the body is submerged. Some allied larvæ live in rotten wood. This organism is not normally a parasite, but it might be swallowed accidentally. It was described as a parasite of man by Brera in 1809, under the name *Cercosoma* (misquoted by some authors as *Conosoma*). If the larvæ were actually passed from the child in this case, as claimed by the mother, the infection was doubtless purely accidental and probably took place through the drinking of some stagnant water.—Editor.]

OBSTRUCTION OF BOWELS FROM GALLSTONE.

R. H. POWELL, M.D.
Superintendent of the Grafton City Hospital.
GRAFTON, W. VA.

Obstruction of the bowels from gallstone is of infrequent occurrence, being variously estimated from 8 to 15 per cent. of all intestinal obstructions. I may be pardoned, therefore, for reporting a case occurring in the practice of Dr. Ithamar Davisson, of Flemington, a village ten miles from this city, and in which I was called in consultation the night previous to the day of operation.

History.—A woman, aged 56, multipara, rather corpulent, had had stercoraceous vomiting for two days; there had been no movement of the bowels for five days, with severe pain in the epigastric region. Patient gave a history of having had attacks of gallstone colic about eight years previously, but had had no recurrence until the beginning of present illness. When I saw the woman she had a temperature of 100.4 degrees; the pulse rate was 120. Early the next day she was brought to the Grafton City Hospital, where she was immediately prepared for operation.

Operation.—A median incision six inches long was made. The abdominal wall was very thick. The intestines were highly injected and very much distended. I drew out through the incision a few coils of intestine, and then passed my hand down to the right inguinal region, where a hard mass was felt. On withdrawing the mass I found that it was *within* the lumen of the bowel, about ten inches above the ileocecal valve. Immediately above this point the bowel was distended and highly injected. Near the cecum the intestine was normal in appearance. One assistant was instructed to grasp the bowel on either side of the *obstruction. After thoroughly* walling off the abdominal cavity by packing with gauze wet in hot normal salt solution, a longitudinal incision was made directly over the obstruction, which proved to be a gallstone. After thorough cleansing, the opening in the intestine was closed by a continuous Lembert suture, reinforced by a second row. The bowel was cleansed, the omentum drawn down, and the abdomen closed with silkworm gut and chromicized catgut.

Remarks.—The patient made a rapid and complete recovery. The gallstone was egg-shaped and measured one and one-half inches in the longitudinal and one inch in the short diameters.

COMPOUND FRACTURE OF THE VAULT WITH LOSS OF BRAIN SUBSTANCE.

A REPORT OF TWO CASES WITH RECOVERY.

MAURICE KAHN, M.D.
Surgeon to St. Vincent's Hospital.
LEADVILLE, COLO.

I feel that no apology is necessary in reporting the following cases, as they are of sufficient rarity to merit attention. Cranial injuries, moreover, occupy a place of the first surgical importance, notwithstanding that only 2 or 3 per cent. of all fractures are found to be of the skull; for the reason that the skull contains so vital an organ, and that there is a mortality of from 20 to 25 per cent. in all vault fractures with or without depression.

It behooves us, then, to give our most serious thought to such cases, the treatment of which appears to be not so well comprehended as the treatment of similar injuries to bones in other situations. Why this should be is not easily explained; certainly the brain, so intolerant of violent usage, the one organ above all others that can not be maltreated with impunity, that promptly resents insult, not alone deserves, but demands proper treatment in the event of its injury. If it were not for brain implication in so many of the cranial fractures, these fractures would have no claim to a more prominent position than similar damage to the long bones. As is well known, the serious aspect assumed by these cases results, not from the extent of the fracture itself, but from the probability of brain involvement, which is the more conspicuous by reason of the higher degree of fragmentation of the inner plate than of the outer. This is particularly evident in gunshot wounds, the ex- [illegible] often discloses an unexpected splintered or depressed inner table. The relative infrequency of fracture at a distance in these cases is probably explainable on the ground that the force of the vulnerating object is expended at the point of impact.

In deciding whether or not to explore it is wise to bear in mind the danger of pus formation outside the dura, the easy infectibility of the diploë, and the chance of the inner table being comminuted or depressed, even though there be but slight evidence of injury to the external table. Hence, before making any but the most superficial examination, it is well promptly to shave the head and to scrub the scalp and one's hands as though going into the cranial cavity; then one is prepared, if it should be found necessary, to proceed with whatever measures may be deemed essential without danger of infection, and thus also to avoid dangerous delay fraught, as it often is, with such possibilities for harm.

Case 1.—I saw this patient, a strong, well-developed man of 40, at midnight on May 18, 1899, about thirty minutes after the accident, which resulted from a quarrel, during which the patient was struck on the head with a woodman's ax. A wound had been inflicted 3⅜ inch long, 1½ inches above the nasion; the anterior angle five-eighths of an inch to the left of the median line; the posterior angle was three-quarters of an inch to the left of the median line.

Treatment.—The head was shaved, scrubbed with chlorinated soda solution, etheral soap and bichlorid of mercury. On exploration there was found the cleanest-cut wound I have ever seen in bone; it had the appearance of a clean-cut incision in any of the soft parts, or as though made by a saw. Within the wound were a few tiny particles of brain tissue. A resolute effort was made to ascertain if splintering, comminution or depression of the inner plate had occurred, including careful probing with a trephine probe, but no evidence of such a condition could be detected. This is the more remarkable, as one familiar with skull fractures, with a knowledge of the inflicting weapon and the probable force used in delivering the blow, would naturally expect to find that considerable more damage had been done the inner plate than had been done the outer. That splintering did not occur is seemingly convincing testimony to the keen edge of the penetrating blade. The wound was sewed up tight, resulting in primary union. While we have no means of ascertaining whether or not harmful adhesions have formed, nevertheless there is at this time (six years following injury), no symptomatic evidence favoring such a theory.

Case 2.—This patient, a robust man of 28, was seen about two hours after the accident, and presented a small, round wound a half-inch above the right superciliary ridge 1½ inches from the median line. There was a second wound about three inches posterior to the first and a trifle mesially. These injuries were said to be self-inflicted from a 38-caliber gun. The wounds were characteristic of bullet wounds; that of entry, the anterior one, being round and small compared with that of exit, the posterior one, which was larger and lacerated. The area surrounding the anterior wound was powder stained, showing the close proximity of the revolver when discharged.

Treatment.—After cleansing the scalp, during which processs considerable brain tissue escaped, the two openings were connected by a straight incision which was prolonged backward to permit thorough exploration. Considerable comminution and depression was then noted. The opening in the skull was enlarged with DeVilbiss' forceps to permit the elevation and extraction of fragments of bone imbedded in the brain. During this procedure a portion of the bullet was also removed, and more brain tissue unavoidably lost. Profuse diploic oozing from the posterior angle was a disagreeable feature attending the operation. This area was packed, just sufficient room being left in suturing to permit protrusion of the gauze. The wound healed by first intention, except the packed area, which, however, closed without difficulty. At this time (nine months following injury), no untoward symptom appears.

It is to be borne in mind in giving prognosis, however, that epilepsy has been known to develop even many years after skull fracture; and also, that traumatic epilepsy most often follows wounds of the frontal and parietal regions.

To the tyro, the presence of a wound of exit might be taken as positive evidence that the entire bullet had passed out, and be misleading to the extent of his concluding that it probably inflicted slight injury to the skull and its contents. The proximity of the two wounds might also lend color to the belief that the bullet had entered at a slight angle, been deflected by the bone, which it possibly had not injured to any great extent. An immediate exploration will always safeguard against error, and should invariably be performed in doubtful cases of head injury. The experienced surgeon might expect to find irreparable damage to the brain by reason of the revolver having been held at such close range at the time of its discharge. As a rule, gunshot wounds of the skull (except those resulting from small caliber weapons) are hopeless because the explosive effect on bone and fluid—or semifluid-containing cavities, frequently insures extensive fissuring and comminution of the skull and great or excessive contusion of its contents.

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SOME OBJECTIONS TO THE PASTEURIZATION OF MILK.

The question as to whether milk is better food for children in a raw or Pasteurized state is easily answered in a few large cities where supervision of dairies is properly carried out and the standard of dairy cleanliness high. Under such circumstances, there is no question that the raw material is the best in every way. Any-one who will take the trouble to follow the newspaper reports of our large cities will find that in most of them there appear from week to week accounts of the fining of milkmen or dairy companies for putting on the market milk which shows evidence of chemical or bacterial abnormalities or which contains some kind of preservative. A visit to the dairy farms in the neighborhood will usually make it apparent why such evidences of uncleanliness are so commonly found. The average dairyman knows little, and apparently cares less, about the steps necessary to insure clean milk, and the average dairy employe does not appreciate them at all. Practical dairymen invariably claim that the price paid for milk in the large cities is so small, and the expenses of transportation and handling milk so great, that they can not afford to be as clean as is necessary to secure uncontaminated milk. The conduct of a clean modern dairy requires a large outlay for buildings and apparatus, and a much larger force of helpers than is to be found in the [illegible] dairy of the present. In order to procure clean [illegible] our cities, therefore, we must either raise the [illegible] milk or resort to some artificial method of ren[illegible]g it innocuous. Unfortunately, any increase in the [illegible]ce of milk would fall most heavily on the more pro[illegible]ic poorer classes, and for this reason is objectionable, though it might be possible to educate the general public up to the desirability of this step. Meanwhile, the question of Pasteurization is of importance.

The advocates of Pasteurization claim that the effect of the process is to destroy the ordinary lactic acid bacilli which cause souring of the milk, to kill disease germs, to prolong the keeping power, and at the same time to produce no marked change in the taste or digestive quality. There is still some discussion, we believe, as to the power of ordinary Pasteurization to destroy tubercle bacilli, an important question if Behring's views as to milk transmission are substantiated. There is still a question as to whether Pasteurization does not destroy or inhibit certain natural ferments in milk which assist in its digestion. Many competent observers, perhaps it would be fair to say most of them, believe that Pasteurization does have this effect.

One of the commonest tests applied by health boards to determine the fitness of milk for consumption is the acidity test. The estimation of the number of bacteria is a tedious process requiring special apparatus, and, in a rough way, there is a parallelism between the amount of acid and the number of lactic-acid bacteria. For this reason, the acidity test, which is simple, is in constant use, and a milk not showing definite signs of souring to the unaided senses, is often condemned on account of high acidity. Bergey[1] has recently shown that reliance on the acidity test will lead to grave error if applied to Pasteurized milk. After Pasteurization the bacteria which survive are the spore formers, and most of these belong to the *Bacillus subtilis* group. These organisms can increase to enormous numbers without raising the acidity of the milk very markedly. For instance, in one of Bergey's tests a sample of Pasteurized milk contained over 148,000,000 bacteria, and had not one-half the acidity necessary for its condemnation. It is true that these particular bacilli produce in time coagulation of the milk, but the changes indicative of spoiling which are appreciable by smell and taste, are not apparent, so that before coagulation a milk with a very high bacterial count would be passed if the acidity test alone was used. It is likewise true that the group of bacteria classed under the general head of *Bacillus subtilis* are not generally regarded as pathogenic, but there are instances, especially in eye diseases, in which they have been known to take on pathogenicity. In any event, they produce changes in the milk which render it less digestible, and like other non-pathogenic bacteria their products introduced into the gastrointestinal tract may be fully capable of setting up severe irritation. Dr. Bergey's work is an argument against the use of Pasteurized milk, and one which should be considered.

CANCER COMMUNICABILITY.

One of the interesting phases of the discussions on cancer at the recent annual meeting[2] of the New York State Medical Association was the fact that the majority of the surgeons who took part in the discussion on the etiology and prophylaxis of cancer, insisted on the possibility of the disease being communicated from one person to another. It has long been a perplexing matter to explain why certain houses have seemed to be much more liable to have cancer patients than others, in spite of the fact that the successive families that moved into them bore no relationship to each other. It has been pointed out, too, that cancer seemed to spread along water courses and, having found lodgment in a certain part of a country, to rage there with more virulence than in other parts, though no climatic or dietetic conditions

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1. Proc. of the Path. So. of Phila., 1905, vol. viii, p. 102.
2. Medical News, Nov. 4 and 11, 1905.

could be suggested to explain this apparent increase of virulence.

There is no doubt at all in the minds of any surgeon of extensive experience that cancer can be and often is autoinfectious, that is, that it may be communicated from one portion of a cut surface of a patient to another portion of the incision. It has often been noted, moreover, that cancer of the lip has been transferred from one lip to the other, and even more wide distributions have apparently been observed, apart from metastases.

Of course, the question of cancer communicability is extremely important. There are many possibilities of error in the consideration of the subject. Cancer is so common as to make the disturbing factor of coincidences almost impossible of elimination. According to the last census, nearly one in thirty of all those who die in the United States die from cancer. Under these circumstances it is easy to understand that not infrequently a person who has been in close association with a cancer patient will afterward die with the same disease, yet without any necessary causal connection. In fact, if this did not occur, in about one in every fifty cases, or a little more, there would be grave doubt thrown on the census statistics. The persons who wait on cancer patients, apart from nurses, are usually of nearly the same age, that is, are brothers, sisters, husbands or wives, and so they have reached the age where there is a special liability to cancer. While there is no reason therefore, for thinking that we have sufficient evidence to disturb those in attendance on cancer cases with the hideous thought that perhaps they are exposing themselves to some slight additional risks of acquiring the disease, there is every reason for further study of this subject.

General practitioners throughout the country can do more to furnish valuable statistics than the operators in large cities. Every case of cancer development, in which there is or has been intimate association with a previous cancer case, should be reported. More than one country physician knows of series of cancer cases that have occurred along a particular water course, or in successive farms along the same road. All of these cases, even though they may seem to be only coincidences, should be reported. From the data thus obtained, perhaps some definite idea of the amount of communicability of cancer that exists may be estimated. That it is not high is sure; if it exists at all, we should know it, and the sooner the better for humanity. Only the general practitioners can solve the problem in the immediate future. It may seem to some of them that the notion of cancer communication is so improbable as not to deserve attention. It must not be forgotten, however, that scarcely twenty-five years ago, in spite of the fact that tuberculous houses had been pointed out, and tuberculous neighborhoods mapped out, there was a general impression that tuberculosis was not communicable, though we now recognize it as a distinctly contagious disease.

THE TYPHOID SPINE.

Recent histologic and bacteriologic studies of the bone-marrow, not only in typhoid fever, but also in influenza, smallpox and other infectious diseases, have shown this tissue to be so frequently affected that it is remarkable that clinical symptoms on the part of the bones are not more often noted in such affections. That they have been noted to some extent can not be denied, but that a general recognition of bone lesions as a result of infectious diseases has not yet taken place can be easily proved by a glance through recent medical literature. The lack of recognition of such lesions is probably due in the main to two reasons, one being that the pains which form so prominent a symptom of such cases are referred to the muscles or nerves, the other that these post-infectious bone lesions tend to heal spontaneously and without the formation of pus.

The lesion which at present usually goes by the name of "typhoid spine," as the diffuseness and uncertainty of this appellation would indicate, has been a subject of a good deal of dispute. There are some who hold that the lesion is a neurosis, whilst others believe it to be due to definite organic changes. As is well known, the condition is one whose main symptoms are pain, generally in the lumbar region, and stiffness of the spinal column. The affection may appear during the fag end of a typhoid attack, or may not occur until several months later. The pain is practically always the initial symptom, it is often quite severe, and usually radiates to the hips, thighs, or abdomen from its seat in the lumbar or dorso-lumbar region.

The recent article of Fluss[1] shows that evidences of more than functional disturbance are to be recognized in quite a large percentage of the cases. Nerve root symptoms are far from rare. Radiating pains, muscle spasm not limited to the spinal muscles, and disturbances in the reflexes must all be interpreted as nerve root signs. Other evidences of organic change are not wanting, and among these must be mentioned rise of temperature at the onset of the pain, paresthesiæ, and in not a few cases actual bony deformity.

It is difficult to reconcile these various symptoms with a neurosis. Of course, marked symptoms of organic disease are often absent, but it must be remembered that the spine is not an easy structure to investigate. If lesions attack the anterior aspect of the spinal column it is readily understood that they may be difficult of detection. There is in many ways a marked resemblance between the method and time of onset and the course of cases of so-called typhoid spine and the post-typhoid lesions which attack parts of the skeleton which are superficial and easily investigated. Their time of onset is similar, fever is apt to occur at the onset in each case, spontaneous remissions are common in both instances, and suppuration not infrequently fails to occur in the definite post-typhoid lesions of the long bones. On the other hand, the mere fact that individuals suffering from these peculiar spinal symptoms are neurasthenic or hysterical does not prove that all their symptoms are due to a neurosis. The evidence so far adduced from the reported cases of typhoid spine is, we think, strongly in favor of the view that this condition is due to organic changes. Just what these changes are we can assume, but can not prove. In the light of our knowledge of post-typhoid bone lesions elsewhere it seems fair to conclude that in some instances we are dealing with a perispondylitis, and in others with actual disease of the vertebræ. It is certainly safe and conservative to regard all such cases for the present as organic in origin, and to outline the treatment with this point in view.

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[1] Centralbl. für die Grenzgeb. der Med. and Chir. *1905, vol. viii*, p. 645.

MENTAL DISEASES ASSOCIATED WITH ARTERIOSCLEROSIS.

The hyperplastic degenerative process designated arteriosclerosis may be looked on as the anatomic expression of old age, mature or premature. Secondary to it the nutrition of the tissues generally suffers with atrophy of parenchymatous structures and increased production of interstitial tissue. These alterations naturally are attended with varied functional disturbances, taking for example, in the sphere of the nervous system, the form of impaired mental, motor and sensory activity. Changes of a related character may be due, likewise, to atrophy of nerve cells, perhaps from toxic influences, although here, too, the vessels are not likely altogether to escape. A good deal of attention has been given to this subject in recent years, and an interesting exposition of the relations between sclerosis of the cerebral vessels and various forms of mental disease is given by Dr. Albert M. Barrett,[1] supplemented by a detailed account of illustrative cases, with description of the lesions.

The lesions are usually focal, although they may be diffuse, and they give rise to a more or less distinctive symptom-complex of varying character. Miliary aneurism, with or without rupture, thrombosis and embolism, conditions often associated with arteriosclerosis, for the purposes of the present discussion, are left out of consideration.

The disease of the vessels may give rise to cerebral atrophy, to subcortical encephalitis, to perivascular gliosis or to degeneration of cortical vessels with destruction of nerve-tissue. The clinical manifestations referable especially to the brain include diminished mental endurance, impaired mental power, enfeebled memory, headache, vertigo, aphasia, syncopal, apoplectiform or epileptiform attacks, paresis and dementia.

The disorder is to be differentiated especially from paretic dementia and from simple senile dementia. The presence of vascular disease, a history of similar disease, perhaps associated with mental disturbance, in the ancestry, and freedom from syphilitic infection are in favor of the arteriosclerotic affection. In the latter, symptoms referable to vascular change, such as attacks of vertigo or "shocks," usually appear earlier than mental phenomena, while delusions are more common and more pronounced in paretic dementia. The pupillary reactions and the kneejerks are less commonly enfeebled in arteriosclerotic than in paretic dementia. The lesions and, therefore, the symptoms, of paretic dementia are diffuse, while those of arteriosclerotic dementia are usually focal.

The differentiation of senile dementia is exceedingly difficult, as this condition is almost invariably, though not necessarily, associated with the lesions of arteriosclerosis. The symptoms comprise gradually increasing change of character, with forgetfulness, inclination to fabulate, loss of judgment and disorientation.

OREGON AND ORGANIZATION.

Not one physician who is interested in the general welfare of his profession can afford to miss reading the report on professional conditions in Oregon which is presented in this issue[1] by the chairman of the Committee on Organization. It is pertinent to call attention to one of the great benefits of Dr. McCormack's visitations to the various states, and that is the comparative estimate of medical affairs which results from the personal investigation of them all by one experienced eye. In no other way is it possible so readily to obtain a true picture of the situation. Then each state presents certain commendable features that all the rest should know about in order to imitate if possible. Also in nearly every state ill conditions have arisen which others will wish to avoid by knowing the antecedent causes. So in the present report on Oregon we find record of one county society that is a model for all, but a general state of professional disintegration whose etiology others will study in order to avoid. Because of internal factional disputes within the profession of the chief city there is total paralysis of effort to perform public duty and to improve medical conditions. The evil results of dissension among otherwise capable and honorable men are vividly portrayed. The medical practice act is ineffective and unenforced, and in consequence of the low qualification standard the profession is being recruited from those who fail to pass the examinations of other states. Good men, disliking personal strife, stay out of the organization and thus greatly weaken it. As a whole, there is no real organization, the average of the profession is low, and the medical schools are weak. Quacks flourish, and here and there is evidence of commissions and of contract and lodge practice. The picture could not well be more unattractive, but no doubt exposure of the evil state of affairs will stimulate the capable men to enter the organization and to control it for the good of the public and of the profession, putting aside or absorbing those who have heretofore spent their time in internal dissension. The regeneration should be made easy by reason of the fact that in the state there is one model county society whose example and success are bound to win adherents for real organization. There is not a state in the Union where the lessons of Oregon can not be studied with profit. Everywhere the lessons of this diagnosis of professional conditions should be fixed firmly in our minds, the good to be imitated and the evil to be avoided.

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[1] Amer. Jour. of Insanity, vol. lxxii, No. 1, p. 37.

[1] See page 1818.

PURE FOOD BILL.

One of the most important bills before the United States Congress this year, from the standpoint of public health, is the Pure Food Bill. This bill has already been introduced, according to press reports, but whether it is the same measure as was before Congress last year we do not know. It is encouraging to know that President Roosevelt has recommended such legislation in his message to Congress, which is an advantage. He says:

> I recommend that a law be enacted to regulate interstate commerce in misbranded and adulterated foods, drinks, and drugs. Such law would protect legitimate manufacture and commerce and would tend to secure the health and welfare of the consuming public. Traffic in food stuffs which have been debased or adulterated so as to injure health or to deceive purchasers should be forbidden.

It is to be hoped that every physician will realize the importance of the measure and will do all he can to overcome the opposition that will come from the organized interests that will be affected. At the present time we would suggest that it might be a good plan for each one to write to his congressman and senator and ask for a copy of the bill. It will at least make them realize that there is such a bill and that some of their constituents are interested in it. There will be no open opposition to the measure; it is the other kind that may be expected.

WHAT IS "THE PACE THAT KILLS"?

This question has been correctly answered a good many times, so that its revival would seem superfluous were it not for the fact that the terms of the problem are continually forgotten. Recent statistics in our two largest and most "strenuous" cities have appeared to show that the mortality from diseases of the nervous system is not increasing. Still, it is much the fashion to charge premature and unanticipated deaths to "the strenuous life" and to "the hurried life." Newspapers, and even some medical men, read into these unfortunate mischances a meaning that rather appeals to our national pride. We are gravely told that the hurry and strain of American commercial life are reaping a harvest of premature decay and death. Of course, if this deduction is warranted by the facts, the "captains of industry," great and small, must be the chief sufferers. But, as a matter of common observation, the real leaders in the great business transactions of our period, as a rule, work no longer than from 10 a. m. to 3 or 4 p. m. on five days of the week. These men also take more outdoor exercise and recreation than ever before was the case. Among them, too, long vacations are the rule. Premising that there is lack of reliable statistics on the subject, it may well be doubted if the fashionable and rather flattering conclusions are in any respect correct. It is not business that kills, but intemperate living of every kind. It is the excessive play of the emotions and the unrestrained gratification of the appetites, not the hard work and the rush, that chiefly contribute to the premature fatalities. The true answer, then, is but a modernized variant of the ancient "wine, women and song." The times have changed, ways of life are different, but now, as heretofore, hard work is beneficial to health, and, as always, there is the penalty for excess in the pleasures of life. The trained physician who witnesses these untimely deaths is not deceived. The myocarditis, the arteriosclerosis, the nephritis, the pneumonia tell to the practiced eye the same tale that is so obvious when we are confronted with an ataxia, a multiple neuritis, a general paresis. Such being the case, it is disingenuous, to say the least, to delude the public into a belief that mere hurry and activity produce such results. Duty and responsibility demand that we at all times keep the old truths well to the front. The true moral must ever be drawn from the execution of these penalties, that the world may benefit by their deterrent effect.

TEA DRINKING.

Considerable has been said of late in some English publications, and extensively quoted in this country, about the evil effects of tea drinking in causing physical degeneracy. We have always with us some dietetic reformers who put the ban on tea as well as on the more harmful stimulants. THE JOURNAL has already expressed itself on this subject, but in view of the above facts a word more may not be amiss. There is a possibility that the decoction of tea leaves improperly made may be injurious to certain organizations, but that a mild tea infusion of sufficient strength to give all its needed exhilarating effects is harmful we can not believe, and certainly not if it is used in due moderation. Excessive tea drinking, like excessive bread eating, is not to be commended; excess in anything is necessarily injurious. There may also be certain conditions of the system, generally morbid ones, in which the taking in of any considerable amount of the chemical substances contained in tea is harmful, but such are not the conditions of the average individual. As counter to this we may mention the sanitary advantages of the germicidal effect of boiling the drink, which wards off more sickness than it could by any possibility produce. It is this which makes habitable the germ-saturated soil of China, and the degenerating effects on the very virile but exclusively tea-drinking population are not very manifest. There are few, if any, more innocent and attractive flavorings possible for hot drinks than that of the tea leaf. Reformers also should bear in mind the fact that in condemning such innocent drinks as tea they are furnishing, in a way, ammunition for the advocates of less innocent ones, who are always ready to utilize any side arguments that are afforded them. Tea, like many other useful things, may not be a valuable element in an infant's diet, and is liable, like every other good thing, to be abused, but it has few objectionable qualities and may be counted as one of the things adding to the material happiness of life.

Medical News

ALABAMA.

Damage by Fire.—The offices of Drs. Thomas F. Robinson, Lucian A. Spencer and Hanby, Bessemer, were badly damaged by fire November 17.

Emergency Hospital Opened.—The Montgomery Emergency Hospital, which is said to be one of the finest and best equipped institutions in the South, has been opened to receive six negroes suffering from smallpox.

Personal.—Dr. T. Miles Leatherwood and family have returned to Tuscaloosa from an extended stay in Denver.——Dr. and Mrs. Rhett Good, Mobile, have returned from Detroit.——Dr. Gaston J. Griel has been elected city physician of Montgomery.——Dr. William G. Harrison and daughter, Talladega, have returned from Europe.

ARKANSAS.

Hospital Threatened by Fire.—The State Lunatic Asylum, Little Rock, was in danger November 25 from fire which broke out in the laundry of the institution.

Fifth District Meeting.—The Fifth Councilor District Medical Society met in Camden November 9, and after a literary program was entertained by the physicians of the city at a banquet.

Hot Springs Doctors Convicted.—A jury in the Federal Court November 1 decided that Dr. S. C. Van Leer, Hot Springs, had been guilty of violating the regulations governing the Hot Springs Reservation by prescribing hot-water baths without having registered. Sentence was deferred.——Drs. James S., Fred and George Fulton, Hot Springs, were arraigned November 8 on the charge of violating the act of Congress governing the prescription of hot-water baths by non-registered physicians. After hearing the evidence Dr. James S. Fulton was fined and his two sons $5 each.

Suit and Injunction.—By order of the Mena Board of Health the public schools of the city were ordered closed until November 20 on account of diphtheria, and on November 16 the board issued an order that all public meetings such as schools, churches and operas should be prohibited for the time being. The pastor of the Lutheran private school, despite this order, opened his school, and was arrested and fined for disobeying the order of the board, whereupon the pastor brought an injunction suit against the board, which was decided by restraining the board from interfering with the school in any way.

Government Should Control Springs.—Dr. Martin Eisele superintendent of the Hot Springs Reservation, in his annual report, states:

> The present system of operating the baths through the medium of private lessees is in conflict with public opinion and incompatible with local conditions, and that the government should, as soon as practicable, consistent with existing conditions, assume absolute and complete control of this reservation and operate the bathing interests under government supervision and control thereby eliminating the spirit of commercialism which is manifested under present conditions; and, through scientific equipment, perfection of system, order, discipline and intelligent direction, extend the benefits to be derived from the healing waters, with rates adjusted to cover prudent operating expenses and necessary improvements.

He also makes the following recommendations:

> I have the honor respectfully to recommend that a white man and white woman of special educational skill in the administration of the baths, be employed to operate the male and female departments of the various bathhouses as special bath directors, who shall supervise and direct the proper execution of bathing directions when furnished by physicians to their patients, or when the applicant is without medical direction.
>
> Under present conditions, there is no one to whom the patient can appeal concerning the baths, except the bath attendant. Especially is this true in the female department, as a manager can not invade the privacy of this department, and if he did he has no special qualifications to properly direct the various forms of the baths required under competent medical direction. In view of the importance and growing demand for more intelligent administration of the baths, I respectfully urge that this recommendation be given careful consideration.

CALIFORNIA.

Diphtheria.—The Gardner school, San José, has been closed for fumigation on account of the prevalence of diphtheria.

Personal.—Dr. John Crawford, Arroyo Grande, has been appointed pension examiner, vice Dr. George B. Nichols, San Luis Obispo, deceased.——Dr. Frederick W. Hatch, Sacramento, has been reappointed superintendent of state hospitals.——Dr. D. C. Strong, Redlands, has been appointed superintendent of the San Bernardino County Hospital, succeeding Dr. Theodore D. Kellogg, Chino, removed.——Dr. John S. Hogshead, Laytonville, has been appointed medical superintendent of the Mendocino county farm.——Dr. William C. Hopper, San Francisco, has returned after two years in Nome, Alaska.——Dr. A. N. Loper, Fresno, has been elected chairman of the local board of health to succeed Dr. George L. Long, resigned.——Dr. Isaac A. McCarty, Corona, has resigned as physician of Riverside County, to take effect Jan. 1, 1906.——Dr. Norman Bridge, Los Angeles, has assumed medical direction of the Esperanza Sanatorium, Altadena.

COLORADO.

Create Medical Library.—The Las Animas County Medical Society has decided to found a medical library in Trinidad for the use of the physicians in southern Colorado.

October Deaths.—The total number of deaths in the state during October was 782, equivalent to an annual death rate of 15.69 per 1,000. Typhoid fever caused 48 deaths; diphtheria, 7, and scarlet fever, 5.

Presentation.—On the sixtieth birthday of Dr. S. Edwin Solly, Colorado Springs, his professional associates presented him with a silver loving cup handsomely engraved and inscribed to "The Youngest of Us All."

Dissolution of Hospital Staff.—The general staff of physicians at St. Francis Hospital, Colorado Springs, has been dissolved in purusance of a change of policy in the conduct of the institution whereby all physicians in the city will have the same standing at the hospital.

Communicable Diseases.—During October 369 cases of typhoid fever, 94 of scarlet fever, 63 of diphtheria and 9 of smallpox were reported. Compared with September, this shows a decrease of 5 cases of smallpox and an increase of 40 of diphtheria, 65 of scarlet fever and 35 of typhoid fever.

Personal.—Dr. Ortus B. Adams has been appointed mine surgeon for the Colorado Fuel & Iron Company at Tercio.——Dr. S. B. Schloz, Bessemer, has resigned from the dispensary staff of the Colorado Fuel & Iron Company and will locate in Colorado Springs.——Dr. Matt R. Root, Denver, surgeon general of Colorado, has gone to New York.——Dr. John Elsner, Denver, has returned from a vacation trip in the East.——Dr. and Mrs. A. Mansfield Holmes, Denver, have returned from a trip to Ohio.

CONNECTICUT.

Communicable Diseases.—During October 157 cases of measles were reported in 13 towns; 114 cases of scarlet fever in 32 towns; 5 cases of cerebrospinal fever in 4 towns; 120 cases of diphtheria in 29 towns; 8 cases of whooping cough in 5 towns; 175 cases of typhoid fever in 46 towns, and 35 cases of consumption in 16 towns.

October Deaths.—During the month of October 1,166 deaths were reported to the State Board of Health. This was 30 less than for the previous month, 1 less than for October, 1904, and 28 more than the average for October in the five years preceding. This mortality is equivalent to an annual death rate of 14.1 per 1,000. Diseases of the nervous system caused 154 deaths; heart disease, 128; consumption, 101; accidents and violence, 83; diarrheal disease, 82, and pneumonia, 74.

Personal.—Dr. Charles H. Glover, Norwalk, has been appointed a member of the medical staff of the Connecticut Hospital for the Insane, Hartford.——Prof. H. W. Conn of Wesleyan University, Middletown, has been appointed state bacteriologist.——Dr. Charles A. Lindsley, New Haven, has resigned as secretary of the State Board of Health, to take effect after the removal of the office of the board to Hartford.——Dr. Joseph A. Coogan has been reappointed health officer of Windsor Locks.——Dr. Herman P. Hessler, New Haven, sailed for Europe on the *Blucher* November 7.

DISTRICT OF COLUMBIA.

Distinguished Surgeons Visit Washington.—Dr. Adolf Henle, professor of surgery in the University of Breslau, Germany, and his assistant, Dr. Otto Fittig, after a visit in Washington, sailed for Germany November 21 on the *Kronprinz Wilhelm*.

Personal.—Dr. George Tully Vaughan, assistant surgeon general United States Public Health and Marine-Hospital Service, Washington, has resigned in order to devote his entire time to the practice of surgery.——Dr. Louis Mackall, Georgetown, slipped and fell November 15, fracturing one of the bones of the foot.——Dr. James J. Kilroy, Washington, has resigned his position on the staff of the gun factory in the Navy Yard to devote his time to the practice of medicine.

Deaths of the Year.—The District Health Officer in his annual report gives the total number of deaths in the District for the year as 6,221, of whom 3,580 were white and 2,641 negroes.

The mortality was equivalent to an annual rate of 19.61 per 1,000 for the entire population, or of 16.03 for white and 27.92 for negroes. The chief cause of death was consumption, which claimed 832 victims, or 13.37 per cent. of all deaths. Diarrhea of young children caused 323 deaths; heart diseases, 562; paralysis, 62, and pneumonia, 556.

FLORIDA.

Loss by Fire.—The building in Mayo owned by Dr. Robert L. Goodbred was destroyed by fire September 18 at a loss of $1,500, fully covered by insurance.

Personal.—Dr. John B. Maloney, Key West, has been appointed first lieutenant and assistant surgeon, Florida State Troops, and assigned to duty with the Second Infantry.——Dr. J. Whiting Hargis, Pensacola, who has been seriously ill with septicemia, has recovered.

GEORGIA.

New Sanatorium.—The Cordele Sanatorium will be opened about January 1 by Drs. Thomas J. McArthur and Walter E. Edwards, Cordele.

New Hospital.—The trustees of the Presbyterian Hospital, Atlanta, have recommended that the hospital association build a steel fireproof hospital to cost $50,000.

Personal.—Dr. Fred Low, Augusta, was presented with a handsome pair of cuff buttons by the executive force of the City Hospital on the occasion of his departure for New Mexico.——Dr. Theodore E. Oertel, Augusta, was elected permanent chairman, and Dr. M. A. Clark, permanent secretary, of the tuberculosis committee appointed by the Georgia Medical Association.——Dr. DeSaussure Ford, Augusta, resigned from the chairmanship of the governing board of the City Hospital. Augusta, November 1, and Dr. W. Harry Goodrich was elected his successor.——Dr. Noel M. Moore has been appointed a member of the board vice Dr. William H. Doughty, term expired.

ILLINOIS.

Epidemic Diseases.—Diphtheria is reported to be epidemic in Walker Township, Hancock County, where three schools have been closed.——An epidemic of smallpox is reported from Jerseyville, where 12 cases have been discovered among the employés of a shoe factory. A strict quarantine has been established and the State Board of Health is in control of the situation.

To Investigate Water Supply.—At a conference November 21, attended by the secretary of the State Board of Health, Edward Bardow, director of the state water supply, and J. A. Harmon, sanitary engineer, plans were adopted for the systematic investigation of the water supply of the state. This investigation will include the sewage purification system in operation in 20 cities of the state, and reports from other states and from foreign countries.

Personal.—Dr. Samuel A. Graham has been reappointed chief of the staff of physicians at the Illinois Eastern Hospital for the Insane, Kankakee.——Dr. James L. Lowrie, Lincoln, narrowly escaped death in a collision between his buggy and some freight cars which were making a flying switch. His buggy was struck by the cars, and the horse, buggy and man were dragged or pushed along the track for 60 feet in front of the cars. Fortunately Dr. Lowrie escaped with only a few scratches and contusions.

Chicago.

Personal.—Dr. Daniel H. Williams delivered a series of lectures at Meharry Medical College, Nashville, beginning November 6.

The Smells of Chicago.—The Health Department, after an investigation of the various foul smells which infest the city, has found seven centers of pollution: The stock yards, stables, sewage, tanneries, malt-drying plants, unclean freight yards, and rendering plants.

November Mortality.—During November 2,065 deaths occurred, equivalent to an annual mortality of 12.56 per 1,000. Pneumonia caused 301 deaths; consumption, 249; nephritis, 187; violence, including suicide, 147; acute intestinal diseases, 112, and cancer, 106.

Deaths of the Week.—There were reported to the Department of Health for the week ended December 2, 483 deaths, equivalent to an annual mortality of 12.65 per 1,000. The deaths were 12 more than for the previous week and 33 more than for the corresponding week of 1904. Consumption caused 67 deaths; pneumonia, 62; heart diseases and nephritis, each, 40; intestinal diseases, 31; violence, including suicide, 25; cancer, 23, and nervous diseases, 22.

Additional Facts.—Dr. Henry J. Burwash requests the publication of additional facts regarding the suit against him, notice of which was made in the last issue of The Journal. He states that he was not sued for performing an unnecessary operation, but for making a partial autopsy without authority of the mother of the deceased; that permission to make the autopsy was given by an elder brother of the deceased, but the court held that the mother was the only person to grant the privilege; and that in the postmortem examination the body was not mutilated, but an incision an inch and one-half to two inches longer than the original incision was made; that only a digital examination was made through this opening, and that no organs were removed.

INDIAN TERRITORY.

Convicted of Manslaughter.—Dr. J. W. Davenport, Oakman, who shot and killed William Gaines, a mail carrier, in a neighborhood quarrel, has been convicted of manslaughter.

Western District Physicians Meet.—At the meeting of the Western District Medical Association at Muskogee November 14 Dr. Floyd E. Waterfield, Holdenville, was elected president; Dr. J. Hutchings White, Muskogee, secretary; Dr. Jesse L. Blakemore, Muskogee, treasurer. Sapulpa was selected as the next place of meeting.

INDIANA.

Medical Equipment Transferred.—The medical equipment of the Fort Wayne Medical College has been shipped to Indianapolis to the Medical Department of Purdue University.

Removed Diphtheria Sign.—Dr. Clara Harbamal, Corydon, who tore down a diphtheria sign, placed on a house in that town by the local authorities, will be prosecuted for violating the health laws of the state.

Personal.—Dr. Morton L. Bridge, Van Buren, has been recommended for appointment as a member of the Grant County pension board, to succeed the late Dr. Eli M. Whitson, Jonesboro.——Dr. Fred R. Clapp, Ligonier, coroner of Noble County, has resigned.——Dr. Brose S. Horne, health officer of Marion, who has moved to Indian Territory, has resigned.——Dr. Albert H. Combs has been appointed secretary of the Marion Board of Health.——Drs. W. H. and Jay Nusbaum have left Auburn and will locate in Las Vegas, N. M.——Dr. Corydon R. Richmond, the oldest resident of Kokomo and the first mayor of that town, celebrated his ninety-seventh birthday anniversary November 22.

Epidemic Diseases.—During the past week a large number of cases of diphtheria have developed in Corydon and the public schools of the town have been ordered closed.——Fort Wayne reports 36 cases of smallpox, and as the isolation hospital has been burned, many houses are quarantined. Dr. Albert H. Macbeth, the city health commissioner, has turned his barn into a temporary isolation hospital.——An epidemic of intestinal indigestion resembling la grippe is reported from Richmond, with 200 to 300 cases.——Scarlet fever is said to be raging at Hillsboro. About a dozen cases are under treatment and 2 deaths have occurred from the disease.——It is estimated that there are 75 cases of tonsillitis in Shelbyville.——The Junction schoolhouse near Flatrock, Washington Township, Shelby County, has been closed on account of diphtheria.

IOWA.

Dipsomaniac Hospital to Open.—The new Iowa Hospital for Inebriates, at Knoxville, will open about December 15. About 83 patients will be placed under treatment at that time.

Epidemic Disease.—Smallpox is reported from Fayette County, 2 cases being under treatment in West Union and 3 cases at Eldorado.——Scarlet fever is prevalent in Sioux City, and at present more than 60 cases have been reported to the health department.

Southeastern Physicians Meet.—At the thirty-fifth annual meeting of the Southeastern Iowa Medical Society, held in Burlington, November 23, the following officers were elected: President, Dr. Frank M. Fuller, Keokuk; vice-presidents, Drs. J. H. Chittum, Wapello, and James S. Gaumer, Danville; secretary and treasurer, Dr. Charles P. Frantz, Burlington, and censors, Drs. John F. Herrick, Ottumwa; George P. Neal, Fort Madison, and William S. McClellan, Morning Sun. The society decided to meet next year in Burlington.

KENTUCKY.

Physician Wins Suit.—In the suit of T. N. Franklin against Dr. Robert N. Whitehead, Fulton, for $15,000 for alleged malpractice, the federal court at Paducah decided in favor of the defendant November 22.

Epidemic Disease.—The majority of the country schools in McLean County have been closed on account of the prevalence of diphtheria and scarlet fever.——Smallpox has broken out in Pineville. Five cases have been reported and the public schools have been closed.

Personal.—Dr. D. D. Eads, Paris, has moved to Chicago.——Dr. Herbert H. Hunt, Mayfield, was kicked by a horse November 17, fracturing his leg.——Dr. Abiah M. Cartledge, Louisville, who has been seriously ill with pneumonia, is now said to be recovering.——Dr. William A. Rice, Fallsburg, has gone to Redlands, Cal.

LOUISIANA.

New State Hospital to be Opened.—The new Louisiana Hospital for the Insane, Pineville, now nearing completion, will be formally opened December 20, when 500 inmates of the Insane Hospital of the State of Louisiana, Jackson, will be transferred to the new institution. Dr. George A. B. Hays, formerly superintendent of the institution at Jackson, will be superintendent of the new asylum.

Personal.—Dr. Hermann B. Gessner, surgeon in charge of the Seventh Ward Marine Hospital headquarters, New Orleans, was presented by the emergency committee of the Seventh Ward with a silver loving-cup November 6.——Dr. Thomas Y. Aby, assistant quarantine officer at Quarantine, at the mouth of the Mississippi, has resigned, owing to ill-health.——Dr. Arthur W. De Roaldes, New Orleans, has returned after a five months' visit to France.——Dr. Rudolph Matas, New Orleans, has returned after a visit to the North.

Tulane College Opens.—The Medical Department of Tulane University of Louisiana, New Orleans, opened November 6 with a lecture by Dr. Abraham L. Metz. The following changes in the faculty are announced: Dr. Paul E. Archinard, demonstrator of microscopy, has been made assistant professor of diseases of the nervous system; Dr. Oliver L. Pothier, for eleven years senior assistant demonstrator in the microscopical laboratory, has been made demonstrator, with Drs. Joseph D. Weis, Isaac I. Lemann and Maurice J. B. Couret as assistants; Dr. Joseph Hume has been chosen lecturer and clinical instructor on venereal and genitourinary diseases; and Dr. Samuel M. D. Clark has been elected lecturer and clinical instructor on gynecology and obstetrics.

MAINE.

Personal.—Dr. Charles E. D. Lord, Biddeford, has moved to San Francisco.——Dr. Samuel B. Hunter and family, Machias, have gone to Seattle for the winter.

Diphtheria.—The prevalence of diphtheria is causing uneasiness in the town of Mexico, where the schools have been ordered closed on account of the disease.

Hospital News.—Biddeford will probably secure a hospital through provisions in the will of the late Moses E. Webber. It is expected that $75,000 will be available for this purpose.

College Opens.—The eighty-sixth annual course of lectures at the Medical School of Maine, at Bowdoin College, Brunswick, began October 23.——Drs. Frederick H. Gerrish and Alfred King have been transferred to the Portland branch of the school and their places have been taken by Drs. Walter E. Tobie and Wallace W. Dyson, Portland, and Dr. Hiram L. Horsman, Augusta.

Penobscot Physicians Meet.—The Penobscot Medical Association held its annual meeting and banquet at Bangor, November 21. Dr. Seth C. Gordon, Portland, was the guest of honor and delivered an address on "The Relation of the Physician to the State." The following officers were elected: Dr. Everett T. Nealey, Bangor, president; Drs. Arthur J. Bradbury, Old Town, and J. Albert Lethiecq, Brewer, vice-presidents; Dr. Bertram L. Bryant, Bangor, secretary and treasurer; and Drs. Daniel McCann, Atwell W. Swett and John B. Thompson, all of Bangor, standing committee.

MARYLAND.

Personal.—Dr. Thomas W. Koon is critically ill with blood poisoning at Cumberland.

Tuberculosis Fund Grows.—Contributions to the funds being raised by the Maryland Tuberculosis Association now amount to $792.50.

Builds Cottage.—Jacob Epstein, Baltimore, has had erected at the Hospital for Consumptives, near Towson, a new building which, in his honor, will bear the name "Epstein Cottage." It cost $1,000 and was planned after the style of building used for the treatment of consumptives in the Adirondacks and elsewhere.

Residence Burned.—The suburban home of Dr. William Gray, Chevy Chase, was burned to the ground November 21, with a loss of $10,000, partially covered by insurance.

Baltimore.

Smallpox.—Several cases of smallpox have occurred recently in South Baltimore.

Personal.—Dr. Randolph Winslow has been elected president of the North Carolina Society.——Dr. E. Linden Mellus has taken a villa near Naples, where he will spend the winter.

The Nostrum Question.—Mr. Samuel Hopkins Adams, who has recently rendered the public such a service by his exposure of patent medicine frauds through a series of articles in *Collier's Weekly*, addressed the Baltimore City Medical Society December 5 on "Medical Support of Nostrums."

Osler to Return.—Dr. William Osler will leave England about December 16 and will be in Baltimore January 5, where he will remain through the month. His visit probably has connection with the system of medicine which he is about to publish, in which he will have the assistance of Dr. Thomas McCrae.

Book Auction.—On November 28 the sale of autograph books took place at the Arundel Club by the Quarter Club for the benefit of the Mountain Sanitarium for Consumptives at Mount Airy, Md. Among books sold were those by Drs. S. Weir Mitchell and William Osler. The wit of Mr. Bonaparte and Mr. France, the auctioneers, drew a large crowd and a large sum was realized.

MASSACHUSETTS.

Fire Damage.—The offices of Drs. John C. Irish and Robert E. Bell, Lowell, were damaged by fire and water November 3.

Diphtheria.—The Brockton Hospital has been closed and placed under quarantine on account of an outbreak of diphtheria.

Leper Hospital.—The five lepers in the state have been transferred to Pekikese Island. The State Board of Charities has imported from India a supply of leproan which will be used for treatment of these lepers. Dr. Louis Edmunds, Harwich, associate medical examiner of Barnstable County, has resigned to become superintendent of the leper colony.

Bequests.—The will of the late Edward Walker leaves in trust an estate of nearly $1,000,000, one-third of the income from which is devised to the Springfield Hospital.——By the will of Mrs. Caroline H. Webber $1,000 is bequeathed to the Dickinson Hospital, Northampton.——The late Robert Carruthers, Lawrence, has left legacies of $500 each to the Lawrence General Hospital, the Lowell General Hospital and the Blackburn Infirmary, Lancashire, Eng.

Suitcase Suspect Acquitted.—A verdict of not guilty was returned December 2 by the jury in the case of Dr. Percy D. McLeod, Boston, charged with being an accessory after the fact to the illegal operation which resulted in the death of Susanna A. Geary, the victim of the "suitcase tragedy," and with concealing the crime. William E. Hunt and Louis W. Crawford, who pleaded guilty to being accessories after the fact in this case, were sentenced to terms of not less than six nor more than seven years in the state penitentiary.

MICHIGAN.

Detroit Personal.—Dr. Isaac L. Polozker, physician of Wayne County, has resigned and will take a long postgraduate course.——Dr. Herman Kiefer celebrated his eightieth birthday November 19.

Harison Re-elected.—Dr. Beverly D. Harison, Sault Ste. Marie, was reappointed a member of the Michigan State Board of Registration and Medicine for the term 1905 to 1909, and in October last was re-elected secretary of the board.

Physician Acquitted.—Dr. J. J. Sweetland, Mottville, Berrien County, who was indicted more than a year ago by the federal government, charged with destroying a rural mailbox, was tried November 21, found not guilty and discharged.

Ill and Injured.—Dr. James Eakins, Alpena, was taken suddenly ill November 26, and is regarded as being in a serious condition.——Dr. Charles W. Isaminger is critically ill with cerebral hemorrhage at his home in Alpena.——Dr. Charles H. Lewis, Jackson, sustained severe bruises about the head and body in a runaway accident November 21.——Dr. James W. Freeman, Saginaw, is critically ill.

Epidemic Diseases.—The Fifth Ward school, Ann Arbor, was closed by the health officers November 15 on account of the prevalence of scarlet fever.——The Board of Health has decided to close the schools of Gladstone on account of an epidemic of diphtheria. There are said to be more than 50 cases at present in the city.——In Detroit last week 16 cases of diphtheria and 11 cases of scarlet fever were reported.

Ann Arbor Hospital News.—The university regents have decided to build an addition to the University Hospital at an expense not to exceed $14,000, to constitute a ward for diseases of the eye, ear, nose and throat and to be in charge of Drs. Parker and Canfield.——The university regents have refused to allow a detention hospital for contagious diseases to be erected on the same grounds as the University Hospital.

MINNESOTA.

Personal.—Dr. Ole G. Hagen, Butterfield, has been appointed a physician on the staff of the Mount Lake Hospital.——Dr. John C. Boehm, St. Cloud, has been appointed chairman of the medical advisory board to the university board of regents.

Physicians Express Gratitude.—The Hennepin County Medical Society has addressed a letter to Mr. Al. J. Smith, prosecuting attorney of Hennepin County, expressing the appreciation of the members of the earnest work of the official in prosecuting those engaged in illegal and criminal medical practices.

Hospital Notes.—The first sod on the site of the State Tuberculosis Sanatorium at Walker was turned November 21 by the chairman of the state board of control.——The Maternity Hospital, Minneapolis, was damaged by fire to the extent of $300 November 1.——The bazaar held at the West Hotel, Minneapolis, cleared nearly $2,000 for the Northwestern Hospital.

NEW YORK.

School Quarantine Lifted.—The six schools in Woodhaven and Union Course, which have been closed on account of diphtheria, have been reopened.

Rabies Prevalent.—Within the past ten days three persons have been sent from Buffalo to the Pasteur Institute, New York City, to be treated for bites from rabid dogs. Since February 15 more than a score of persons have had to go to New York from Buffalo for treatment.

Down on Hazing.—Dr. Roswell Park has written a strong letter of protest to each of the secretaries of the secret fraternities of the Medical Department of the University of Buffalo, concerning class rushes, class conflicts and hazing, in which this mark of rowdyism is absolutely condemned, and urging the societies to co-operate with the college authorities to abolish these evils.

New York City.

Contributions to Hospitals.—Contributions to the Woman's Fund of the General Collection for the Associated Hospitals have been officially reported and amount to over $2,000.

Large Hospital Fair.—The receipts from the Jewish Hospital fair in Brooklyn, which was opened by Governor Higgins in the Twenty-seventh Regiment Armory November 27, were over $40,000 at the end of the second day, and it is confidently expected that from $75,000 to $100,000 will be realized by the close of the fair.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended November 25, 406 cases of tuberculosis, with 162 deaths; 326 cases of measles, with 11 deaths; 310 cases of diphtheria, with 31 deaths; 155 cases of scarlet fever, with 11 deaths; 65 cases of typhoid fever, with 9 deaths; 17 cases of cerebrospinal meningitis, with 7 deaths, and 121 cases of varicella.

Water Plans Opposed.—At the hearing on the plans for extending the water supply of New York City by drawing on the Catskill watershed unexpected opposition developed. There were fifty or sixty protests from various towns and villages along the course of this watershed filed, and more are promised. It seems likely that the board will condemn the plan or refer it back to the city commission for amendment.

Pneumonia and Measles.—The Health Department announces that this is the "measles year" and that this disease is usually accompanied by a decided increase in pneumonia; hence they are redoubling their efforts to combat these affections by urging a fight against dust and by greater activity in the anti-spitting crusade. The public has been warned against cold, alcohol and fatigue as the three direct invitations to pneumonia.

NORTH CAROLINA.

New Sanatorium.—The Tuberculosis Sanatorium established by the Royal League at Black Mountain has been completed and is open for patients.

Personal.—Dr. Marshall H. Fletcher, Asheville, has returned after a trip to New York.——Drs. Carl V. Reynolds and Jere Cook, Asheville, sailed for Europe November 15.

Additions to Sanatorium.—A new wing has been added to the Broad Oaks Sanatorium at Morganton, which will be devoted to private pay patients. Dr. Hugh Thompson, Reedsville, has been appointed assistant resident physician to the sanatorium.

Correction.—In a recent issue of THE JOURNAL it was stated that Dr. M. Avery, Salisbury, had been recently convicted of defrauding the government of large sums and had been sentenced to a term in the federal penitentiary. We are informed by our North Carolina correspondent that there is no such person in Salisbury as Dr. M. Avery, but that some weeks ago a distiller named D. M. Arey was convicted and sentenced as noted.

Need More Room for Insane.—It has been suggested by the lay press that the insane hospitals of the state are receiving and treating as patients in their wards persons other than indigents. Under a strict construction of the statutes only indigents are legally admissible to the state hospitals for the insane, but practically the letter of the law has been so ignored that 97 per cent. of the inmates of state institutions are treated at the public expense, while an average of more than 69 per cent. of the inmates are cured. Yet there has been a constant and steady accumulation for many years of incurables in each of the hospitals until, with the increase of insanity, the accommodation provided in state institutions has become insufficient to accommodate the insane of the state. Dr. P. L. Murphy, superintendent of the Western Hospital for the Insane, Morganton, has repeatedly called the attention of the legislature to this imperative need, and now, at last, additions to the State Hospital at Raleigh are being made, and an investigation is to be instituted by the governor to ascertain the financial status of the inmates cared for at the public expense, with a view of possibly securing more space for indigent patients.

OHIO.

New Cincinnati Hospital.—The new city hospital ordinance approving the plans and specifications for 18 of the 35 proposed buildings, at an estimated cost of $1,750,000, and a bond issue to start work at once on the administration building and one ward building, has been passed unanimously by the city council.

Public Lecture on Consumption.—Under the auspices of the Academy of Medicine of Toledo and Lucas County, Dr. S. A. Knopf, New York City, will deliver a lecture at Memorial Hall, Toledo, December 14, at 8 p. m., to which the public is invited. Dr. Knopf's subject will be "The Tuberculosis Problem; How It May be Solved."

Personal.—Dr. W. E. DeCourcy, Cincinnati, who is recovering from a long and serious illness, will spend the winter in the South.——Dr. L. M. McFadden, Staunton, has been elected to the legislature from Fayette County.——Dr. Thomas B. Marquis, Lisbon, is seriously ill with typhoid fever.——Dr. Oscar Berghausen, Cincinnati, has gone to Berlin.——Dr. Alexander J. Erwin and family, Mansfield, have gone to their winter home in Los Angeles.——Dr. William D. Hamilton, Columbus, who was recently operated on for appendicitis, is improving and will soon return home.——Dr. Joseph E. Boylan and daughter, Cincinnati, sailed for Europe December 5.

PENNSYLVANIA.

Hospital Dedicated.—The new Lancaster General Hospital, erected at a cost of $75,000, was dedicated November 30.

New Hospital for Braddock.—Braddock is to have a general hospital. The old Mills homestead has been purchased at a cost of $30,000, and alterations are now under way that will cost about $15,000 more. It is expected that the institution will be ready to receive patients early in the spring. The Braddock Medical Society is a prime mover in the work and is fully represented on the board of directors of the hospital.

Philadelphia.

Medical Society Elects Officers.—At the regular meeting of the University of Pennsylvania Medical Society November 17 the following officers were elected for the ensuing year: President, Dr. David Riesman; vice-presidents, Drs. J. Dutton Steele and J. B. Carnett, and secretary, Dr. John M. Cruice.

Personal.—On December 5 a farewell reception was tendered Dr. Josiah C. McCracken, who will leave for China during this month to establish a medical school which shall represent the University of Pennsylvania in the city of Canton. An address, was made by Prof. Harlan Page Beach of Yale University.——Dr. Robert H. Chase was selected chairman, and Dr. William H. Good, clerk, of the newly organized Northeast Branch of the County Medical Society.

Health Report.—The total number of deaths from all causes reported for the week was 463, as compared with 472 for last week and 426 for the corresponding week of last year. The principal causes of death were: Heart disease, 58; acute respiratory disease, 68; enteritis, 9; appendicitis, 3; Bright's disease, 36; typhoid fever, 12; diphtheria, 18; tuberculosis, 41; cancer, 18; apoplexy, 25; premature birth, 12; suicide, 7; accidents, 14, and marasmus, 8. There were 253 cases of contagious disease, with 31 deaths, as compared with 269 cases and 27 deaths for the previous week. There were 85 new cases of diphtheria, with 19 deaths. This disease has caused the officials of the health department some concern.

TEXAS.

Personal.—Dr. and Mrs. John Grammer, Fort Worth, returned November 20 from a summer in Europe.

Great Gifts to Sanatorium.—On November 17 $90,000 was pledged in thirty-five minutes for the building of the Baptist Memorial Sanatorium, Dallas.

Eighth District Medical Association.—The association for this district held its fourth semi-annual meeting at Bay City November 14 and 15. Dr. James E. Simons, Bay City, was elected president. The next meeting will be held in Cuero, April 4 and 5, 1906.

GENERAL.

Philippine Journal of Science and Other New Papers.—The Bureau of Government Laboratories at Manila will issue a journal in place of the bulletins which have been the method of presenting results of research and experience in the Philippines. It is to be called the *Philippine Journal of Science;* each issue to consist of 112 pages and free use is to be made of illustrations. The scope of the journal will be general, but the medical part will occupy more space than any other department. This proposal indicates that an interesting and valuable journal will be created.——The *Northwestern Lancet* has now become the *Journal of the Minnesota State Medical Association and the Northwestern Lancet* and will be published under the direction of the council of the association. The publication committee consists of Drs. W. S. Fullerton, Thomas McDavitt and F. A. Knights, and the editor is Dr. W. A. Jones. The *Northwestern Lancet* has always published excellent original matter and has maintained a commendable editorial stand. The Minnesota profession deserves praise for completing this arrangement and, with the aid of a united profession, a journal should result more excellent even than has been the past character of the *Northwestern Lancet.*——The *Journal of the New Mexico Medical Association* is presenting a bright appearance. Dr. G. W. Harrison, the editor, and Drs. G. S. McLandress and J. H. Wroth, assistants, are issuing a newsy little monthly.——The *Journal of Physical Therapy* is a new magazine, edited by Dr. G. M. Blech, Chicago, and published by Frank S. Betz, Hammond, Ind. As its name indicates, it will be devoted to radiotherapy and the various mechanical agencies.——The *Central States Medical Monitor* is the result of the consolidation of the *Medical and Surgical Monitor* and the *Central States Medical Magazine.* Dr. Samuel E. Earp, Indianapolis, will be the editor and his salutatory promises an independent, impartial publication for the general practitioner.

Yellow Fever in Cuba.—Passed Assistant Surgeon von Ezdorf reported from Havana, November 20, that all cases at Havana which have been diagnosed as yellow fever are passed on by a board of diagnosis. When a suspicious case is reported the patient is taken to the hospital and the residence fumigated for the purpose of killing mosquitoes. The board of diagnosis is notified and after making careful study of the case, confirms or negatives the diagnosis of yellow fever. All the cases have been traced to what is known as the infected district, which is located in the central portion of the city. Several new cases have been reported and Dr. von Ezdorf states that the situation in Havana is becoming serious. Acting Assistant Surgeon Nunez reports that in view of the prevalence of yellow fever in Havana an active campaign is being organized in Matanzas, by direction of the chief health officer of Cuba, to prevent its possible importation and propagation in that city. Two of the city physicians have been detailed to inspect and to keep a record of all the non-immune passengers arriving from Havana by train, noting their addresses, and reporting to the local health officer their condition, which is ascertained by daily visits for five consecutive days after arrival in the city. The local health officer has recommended organizing a special commission for contagious diseases out of the most prominent practitioners in town, to act in an advisory capacity in the determination of doubtful diagnoses. He also points out the necessity of increasing the mosquito brigade and the force devoted to general sanitation, in order to insure a better service, and hence the probability of its success in averting the propagation of yellow fever in the case of reaching that locality. Precautions will also be observed by the quarantine authorities with all vessels arriving from Havana, particularly those in the coastwise trade, hitherto free from quarantine restrictions, to meet any emergencies that may arise. Non-immune passengers arriving at Santiago by train from Havana are examined by the medical inspectors before they are allowed to leave the cars. The same precautions are observed at Camaguey.

CANADA.

Typhoid Fever in Winnipeg.—The number of typhoid cases in Winnipeg during November was much less than for the same month last year.

Smallpox in Ontario.—Smallpox has appeared at Belleville, Ont., and at another point in Ontario, 15 miles from Sudbury. Toronto has now 15 cases. The disease has also appeared in Queens County, New Brunswick.

Fall Medical Examinations of the Ontario Medical Council.—These examinations were held in Toronto during the week ending December 2. There were 33 candidates in the primary and 45 in the intermediate and final examinations.

Personal.—Dr. William J. Bannister, late of Cork, Ireland, has commenced practice in Winnipeg.——Dr. Harper Wilson, who has been surgeon for the Crow's Nest Pass Coal Company, of Fernie, B. C., has decided to locate in Winnipeg.

Toronto's Vital Statistics for November.—During the month of November just past there were 411 births in Toronto, 328 marriages and 293 deaths. In October the births were 737, but that month the city clerk sent out special notices reminding parents of registration. Apparently there are a great many physicians and parents in Toronto who do not believe in registering births. Of the total number of deaths in the city during November, 58 were due to pneumonia and tuberculosis. Seventy children under one year of age died during November, and fifty persons over 70.

FOREIGN.

Fewer Medical Students in Austria.—In 1895 the degree of doctor of medicine was conferred on 1,011 medical students in the universities of Austria and Hungary. In 1904 only 561 similar degrees were conferred.

Chair of Applied Therapeutics at Paris.—The *Presse Médicale* for November 18 states that the medical faculty of the Paris University has reported favorably on the creation of a professorship of applied therapeutics. The funds for the endowment of the chair were presented by the duc de Loubat.

Plague in Japan.—The American consul at Kobe reports that plague is present in Kobe and in Osaka. A dispatch from Seattle states that the officers of the steamship *Dakota* report that this disease is raging in Yokohama and that probably no more vessels will be given clean bills of health at present.

Austrian Society for Combating Quackery.—A meeting was called at Vienna to found a new society with the title *Gesellschaft zur Bekämpfung des Kurpfuscherthums.* Members of various medical societies attended, as also representatives of the health office, city council and police. Dr. Grün outlined the present status of irregular practitioners' quack practices in Austria, and Dr. Charas described the aims of the new organization. Professor Kassowitz was elected president and Professor Ausserer and Dr. Charas vice-presidents.

Medical Certificate for Chauffeurs in France.—The last *Semaine Médicale* states that the minister of the interior in France appointed a committee representing different government departments to suggest measures to regulate the automobile evil. The committee met in October and its report has been handed in to the authorities who have the matter now under advisement. The report states that the accidents from automobiles are due mainly to the heedlessness or the insufficiency of the chauffeurs. At present there is no age limit, any one can run an automobile, a child of 12, an epileptic or degenerate of any kind. The committee urged the adoption of an age limit, graduating it to the power of the machine. For an automobile of less than 35 horse power, a chauffeur 18 years old might well suffice, but for more powerful machines the lowest age limit should be 21, and the chauffeur must have learned to manage the machine by practicing with less powerful ones at first. The report also urges the adoption of the requirement of a medical certificate to the effect that the candidate for driving an automobile must be sound in mind and body.

In Russia.—The *St. Petersburg med. Wochft.* for November 11 appears somewhat curtailed, "owing to the general strike among the printers." A brief notice states that physicians at many points are joining in the present agitation for freedom. A general meeting of physicians connected with the hospitals of Moscow was held late in October and the following resolution was adopted: "Although the physicians regard the strike as an effectual and the least bloody measure in the struggle for freedom and justice, yet they do not join in the strike, but remain at their posts, prepared to cope with emergencies if there is bloodshed. In order, however, to show that they indorse the general strike, they set aside 20 per cent. of their salaries for a strike fund, under condition that some representatives of the hospital physicians be appointed on the general central strike committee. The administrative authorities of the city and hospitals are hereby warned that any attempt to enforce repressive measures on the physicians of the hospitals will be met with withdrawal of the physicians from their posts, disclaiming all responsibility for the consequences that may ensue."

Cholera in Europe.—The German health authorities are anticipating that there will be another outbreak of cholera in Germany in the spring when the rivermen come through from Russia. A number of new regulations have been announced, among them that lime for disinfection will be supplied from the supervision stations to rivermen and others on the navigable streams, the expense to be borne by the general government. Persons traveling and working along navigable rivers in the cholera district are liable to contract cholera if they drink the water of streams, and, therefore, official arrangements must be made to supply them with good drinking water. The workmen along the river must be inspected daily to see that they have a suitable supply of pure drinking water with them. Supplies of drinking water for vessels navigating these streams must be attended to by the local sanitary authorities of the communities along the rivers, who are the ones most interested in the river traffic and consequently should bear the expense. Special measures are advised for disinfection of the rafts of logs coming through from Russia, as also of those suspicious of cholera. All the articles on the rafts of no value are to be burnt, and the others disinfected. For this purpose a mixture of equal parts of crude carbolic acid and a cheap oil, linseed or petroleum, is recommended.. The mixture is limpid and has a tendency to spread out on the surface of the water, so that it is particularly adapted for disinfecting the stagnant water in the cracks between the logs and also the floor of the raft and suspicious points along the river bank. It is not recommended for disinfection of dry hay or straw, but serves admirably for damp articles.

Student's Number of French Exchange.—The *Progrès Médical* for November 11 is an exceptionally large number, and more than a hundred pages are devoted to data in regard to universities, medical colleges, medical societies, prizes offered and other information of interest to medical students and physicians. The institutions listed include those of all the French-speaking countries, Belgium, Canada and Switzerland, as well as France and the French colonies. It is a valuable reference work for a physician or student intending to visit any of these countries. The journal is published rue des Carmes 14, Paris, Bourneville, the eminent neurologist, being the editor-in-chief, as also of the *Archives de Neurologie.* We learn from this educational number that instruction in oto-rhino-laryngology is not included in the official medical course in France, except at the medical school at Bordeaux, where there is an assistant professor of this specialty, and fourth-year students are required to attend a course of lectures on this subject. Elsewhere instruction in oto-rhino-laryngology is left to private initiative, a few eminent specialists holding private courses and clinics. The country doctor, during his five years' study of medicine, never had occasion to look at a tympanum, a larynx or inferior turbinate, and never used an otoscope, and yet he is consulted for oto-rhino-laryngologic affections perhaps as frequently as any other, and has to treat them as best he can. The signed editorial on the subject urges compulsory instruction in this specialty, remarking that all that need be done is to copy Germany, who, "notwithstanding her ardor for war, does not forget the peaceful conquests of science."

Behring on His Tuberculosis Remedy.—The last *Allg. med. Ct.-Ztg.* cites the Paris *Temps* to the effect that Dr. Bernheim, of Paris, applied at once to von Behring, asking him for some of his new remedy to try it in the Tuberculosis Polyclinic, which has just been founded by the Paris Antituberculosis League. Behring wrote in reply: "My new remedy (*Heilmittel*) can not be sent away without the danger of losing some of its specific properties. I obtain the TX from the animal body in a form which can be likened most appropriately to that of an explosive substance. As soon as the remedy leaves its place of production, that is, the living body, it is exposed to changes which have a great resemblance to coagulation of the blood as soon as the blood flows out of the blood vessels. It is precisely on this account that the control of the curative value of my remedy is possible only at the place of origin and production and only by impartial investigators who have thoroughly learned under my direction the great difficulty and tediousness of the process required for the production of TX. Such precautions are by no means unusual in the testing of new remedies. I remind you only of Pasteur's protective inoculations against hydrophobia, which can not be handed over freely to every clinician, to say nothing of every general practitioner. Besides this, the application of TX is much more difficult and delicate than that of the Pasteur vaccine against hydrophobia. I have more important reasons for refraining fr[illegible] at the mode of production of the TX. I [illegible] of the process for a later occasion, but I may inform you now that I am at present discussing with Metchnikoff the feasibility of producing my TX in the Paris Pasteur Institute, whence its application to the sick can be supervised. Not until the first series of experiments and several months of observation have demonstrated this TX to be usable shall I think of establishing other centers for treatment by my method. All this readily explains why I announced that I should not publish information in regard to my new tuberculosis remedy until after an entire year." (Behring's original communication was given on page 1339.)

Hirschberg's Impressions of America.—Prof. J. Hirschberg has been contributing a series of articles to the *Medizinische Klinik* under the heading, "My Third Trip to America," describing his visit to Portland as the guest of the American Medical Association at its last annual meeting. He remarks in regard to American science, especially ophthalmology, that it has gained by immigration as well as by natural growth, citing the names of several German ophthalmologists now citizens of the United States, while paying a high tribute to the general standing of the specialty and giving a historical sketch of its development in this country. He tells his countrymen that any one stepping into the bubbling spring of American hospitality must have a powerful constitution, an indestructible stomach and a certain equipoise, for he can count on immense distances and unusual demands on his endurance. He was on the special train on July 4, but had sufficient experience of the celebration as the train passed through cities to enable him to appreciate the articles in The Journal of the American Medical Association on the subject. He cites parts of them entire, remarking that they will certainly arouse in his readers the same amazement and horror as in him when he first read them. Another thing which much impressed him was the small number of children in the true American families which he met. He remarks in regard to the American institutions of divorce, lynch and graft that they are part of the children's diseases through which this great and young country is passing. He visited certain important imported scientific libraries, which, he remarks, have been lost to Germany, as the government has no money for such purposes. The Educational Number of The Journal is frequently quoted in his articles, with the comment that Germany has nothing of the kind, although the leading British and French journals publish an annual students' number. He mentions The Journal frequently, describing its phenomenal growth and saying that it deserves the attention of the German reader, which, he adds, "it has already found, as our important medical journals review and abstract its contents regularly." He regards the American Medical Association, "in the maner of its organization and workings, as of the greatest importance for the entire people, as well as for the medical profession, in the United States." The Berlin Docenten-Verein for Vacation Courses has had 16,293 physicians attend its lectures between 1880 and 1894, among them thousands of Americans. He has had hundreds attend his own courses, and his general impression is that in talent they average about the same as the German students, and their industry is satisfactory, but their preliminary training is not quite equal to that of the Germans. In reply to a question as to what he thought of the "exchange of university professors," he remarks that "to date there has been no exchange of peers." In conclusion, he expresses surprise at the long-suffering patience of the American public in allowing the railroads to impose their preposterous lengths of ticket on the travelers. On his return trip he finally laid his ticket aside for a souvenir and paid his fare from city to city rather than handle what he calls "the rattlesnake of the American railroads."

Pharmacology

BIOPLASM.

In our issue for November 18 we graphically showed in these columns that "Bioplasm" and "Sal Lithin," exploited by the Bioplasm Company, of New York, are being advertised directly to the public in a manner that is not usually adopted by an honorable firm, and which in itself shows fraud or at least an attempt to deceive. Our exposé of this Machiavelian method of appealing to the public should be enough to deter any thinking physician from prescribing this nostrum. Since it is advertised in medical journals which make a pretense at decency, one of which is a weekly, we presume it is necessary to give more attention to this product and to show the character of the claims made for it by its exploiters.

ITS COMPOSITION.

The circulars sent out by these people bear evidence of having been written by persons who are either densely ignorant of the subject on which they write or decidedly unscrupulous. A glance at the following quotations taken from these circulars shows very clearly of what a mass of absurdity and contradiction they are composed:

"After a careful extraction under aseptic methods the enzymes are treated by a process which unites them, creating a new product or ferment which resembles closely the bioplasm of Dr. Lionel S. Beals. . . . There is in bioplasm the several enzymes[1] (ferments) of digestion which include nuclein, lecithin, trypsin, etc."

In another circular we are told:

"Bioplasm is produced from the digestive and ductless glandular organs of young herbivorous animals, but it essentially differs from the glandular extracts and nuclein preparations. . . . The defibrinated products after cultivation are desiccated and finally triturated with chemically pure sugar of milk. The exceptional therapeutic virtue of bioplasm is chiefly attributed to the compound element acquired by the process of cultivation described. It positively contains nothing besides the organic products stated, the vegetable ferments being no longer used."

Of course, intelligent physicians know that there is no process by which digestive enzymes may be united, creating a new product of a ferment nature. In the circular we also find this positive statement:

"Bioplasm contains absolutely nothing besides the organic products stated, and its marvelous curative properties reside in the basic ferment resulting from action of the 'mother substance' of the several digestive ferments upon each other."

We learn from another circular:

"Bioplasm . . . non-toxic preparation of animal and vegetable enzymes so compounded as to preserve their original cell vitality."

Note we have just quoted that the vegetable ferments are no longer used, and that only the organs of young herbivorous animals are utilized. The enumeration of nuclein and lecithin as digestive enzymes is sufficient to show that the writer of the circular knows little of the subject on which he has written.

ITS THERAPEUTIC CLAIMS.

The therapeutic claims made for this cure-all are as grotesque and as absurd as are those which are made regarding its composition. It would be wearisome to enumerate all the diseases which it is claimed to cure, but a few taken at random will not be out of place:

"Equally efficient in morbid obesity and emaciation."

"A fatal epidemic of diphtheritic toxemia in West Virginia was checked only when Bioplasm was used."

Here is what appears on the label as it is sold in the drug stores:

"Indications: All neuroses or other disorders in which assimilation and metabolism are faulty. Most prompt and powerful restorer of leucocytes and phagocytes, immunizing by strengthening bactericidal properties of blood. Unique as neuro-nutrient and blood builder, invaluable in Tuberculosis, Typhoid, Scarlet and Malarial Fevers; in Diptheria, Pneumonia, La Grippe, Dysentery, etc.; prompt specific in all forms of indigestion, unequaled in Locomotor Ataxia, in Pelvic diseases of women and convalescence."

It may be interesting for physicians who are prescribing bioplasm to have quoted for their edification some of the testimonials from the laity:

BROMIDROSIS (OFFENSIVE PERSPIRATION).

"'I found relief in a short time after beginning Bioplasm, more noticeable to others than myself. I think it is due to say that, while I was taking it, I used no other remedies.'"

"IMPOTENCE."

"I became incompetent at the age of 45, as a result of a long nervous strain from overwork and unusual responsibility. For four years I have tried many doctors and many remedies, including the rest cure, with some improvement in my general health, but none in my functions. I was gradually drifting towards melancholia, when a physician advised me to try Bioplasm. I did so faithfully, and inside of a week noticed a change in my feelings. My depression disappeared and my ambition returned, and gradually all my powers and functions were restored to me. I used nothing but Bioplasm, except an occasional aperient. In my whole vigorous life I was never better in every way than I am now—and I consider *myself a perfect* man, thanks to Bioplasm. This should be made known to the million sufferers, such as I, and you may use this as you see fit."

"INFANTILE INDIGESTION.

. . . "We had no more trouble with baby after using that sweet powder (Bioplasm), which she took greedily, and the only medicine you have prescribed which we have not had a struggle with her to take. The relief from suspense is great, I assure you." . . . .

A WONDERFUL CURE.

Among the diseases in which Bioplasm seems to get in its work most effectively is tuberculosis, and if one-tenth of what the literature claims for it were true, consumption would soon be a thing of the past. Here is one instance worth recording: A certain physician reported one of the most rapid cures ever effected. His patient had night sweats that were very bad, had been to Colorado, "has taken all patent medicines on the market," his previous physician gave him up and said he could not live through the winter; nine physicians had treated him and given him up, assuring him that his days on earth were few.

This is enough to show that the poor patient was in the very last stage, and yet a miracle was performed, for after giving the Bioplasm for a week the testimonial says:

"The change in my patient during the seven days of treatment is most remarkable. The night sweats have ceased. The appetite has improved, and the condition of the lungs has improved to such an extent as to make me sanguine where I have been utterly hopeless. . . Doctor, I feel like a new man. My strength is rapidly returning, and all I want now is a little more time and Bioplasm, and Bio will put me on a sound basis for the enjoyment of life, and a happy old age—a living chagrin to the many physicians who have been pointing me to the grave."

But there is another side to this bright picture. Before us is correspondence to the effect that the patient died soon after this testimonial was written. The doctor who reported the remarkable cure had been in practice but a little while. He evidently imposed on himself, and in a recent letter he expresses regret that he wrote as he did. It is for this reason that we omit his name. In a letter recently received he says:

"Yes, I have used Bioplasm a number of times since with absolutely no results. . . . I was very enthusiastic at that time and it is certain that I would not attach such value to the treatment as at the time mentioned. When I wrote to the Bioplasm people, it was simply with the hope that their product might be of value to those afflicted with tuberculosis."

LOCOMOTOR ATAXICS CURED.

The following letter, from one whom we will call X, as we do not care, under the circumstances, to publish his name, is one of the bits of literature that is doing good work for Bioplasm:

———, June 8, 1905.

Bioplasm Company, 100 William Street, New York City:

Gentlemen:—Your inquiry about Mr. R——, the tabetic patient from Mexico, who has been taking Bioplasm for some seven or eight months, I want to answer briefly, so as to cover the ground.

Mr. R—— is about 45 years old, rather frail all his life. . . . Something less than a year ago he began to experience trouble with his legs and general health, . . . and on consultation with doctors was promptly pronounced a tabetic, having almost all the classical symptoms. His people here came to me, asking what to do. I could only advise Bioplasm. This was begun as soon as he could get a supply from you, in the meantime being treated with strychnin, massage, and so forth, ... No improvement. Soon after beginning Bio, felt better. Five or six months ago he came here. When he arrived he could not get on a street car. To see him walk was agony. Soon he was taken to the cars with an attendant. Shortly after he was going around alone. Took long walks. Got better every day. He called on me yesterday, and upon inquiry, said: "The padded sensation of soles still present to some degree, and knee-jerk absent. Aside from these, I consider myself a well man." He looks well, feels well, walks well, and as far as can be told, IS well.

Could all ataxics see this case as I have seen it, they would send in such a blast for Bio that you would flee from it. Doubtless, "things seen are mightier than things heard" (of), and there are so many "cures" reported, that, like miracles, dwindle at short range, that one more or less will not count for much—in print. But I have seen this, and I believe.

Since coming here, Mr. R—— has taken Bio constantly, and also has had massage twice a week. No other treatment, except that he has been going through some of the kicking for "re-education."

Yours very truly, ——— M.D.

A physician in Kansas wrote to the Bioplasm people, asking them to give him the names of some reputable and well-known physicians who had used Bioplasm with the success that was claimed for it. In reply the Bioplasm people said:

"We take pleasure in referring you to Dr. X, whose letter we enclose herewith (see above), and who is well known and highly esteemed in ——."

We had already written for information in regard to Dr.

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[1] We quote spelling and grammar exactly in all these extracts.

X and received a reply to the effect that no such physician was practicing in ———. On receiving the communication from our Kansas correspondent we again tried to get information in regard to Dr. X, which resulted in the following letter just received from our investigator:

> In regard to Dr. X, of whom you wrote me a few days since: He graduated from ——— years ago; he suffers from locomotor ataxia, and can only get around in a wheel chair; he is a deaf mute, and has been in that condition for ten years; he has not practiced any for twelve years; he has no license in this state or county. He uses Bioplasm himself, and thinks he derives benefit from it. He says that he only recommends it from his personal experience. Dr. C. is his attending physician and has charge of him in a general way. Dr. C. says that he is a perfectly innocent, well-meaning, broken down man.

We have followed up several other testimonials and it would make interesting reading if we had space to devote to a record of the results of the investigation.

One physician from Pennsylvania writes:

> "I am glad that Bioplasm is finally being exposed. About two years ago, the Bioplasm people imposed on we younger physicians by giving us testimonials and ending with selling us five bottles of their dollar size for $2.50. I dispensed an entire bottle with no effect whatever in any of its so-called usages. The other four I have still as a reminder of my folly. A few days ago a 'locomotor ataxic' told me of his wonderful new cure or 'sure cure' and behold it was Bioplasm which he got direct from the firm with their wonderful 'epitome.' He had just run out of his '175 tablets for $1.50,' and wanted to get some more."

When some great disaster overtakes a community and the dead and dying lie scattered about, fiendish ghouls steal forth to despoil the dead and the helpless. By common consent such loathsome creatures are usually ordered shot when found at such work; but with what words can we characterize those still more loathsome creatures who scent quarry in that vast army of the sick and miserable, who, loath to acknowledge the presence or approach of the king of terrors, turn to those who speak them fair with bright promises of succor while they rob them of a few dollars and, far worse, ofttimes of the one chance of help which medical science affords? And what shall be said of physicians who, consciously or unconsciously, aid in such a despicable business?

THE SUBTLE POISONS.

BY SAMUEL HOPKINS ADAMS.

Under the above title Mr. Adams, in *Collier's Weekly*, December 2, exposes some of the nostrums that contain acetanilid, morphin, cocain, etc., but the acetanilid group receives the greatest attention. At the head of the article are given the names of twenty-two persons who have died from acetanilid poisoning, as reported by the newspapers. The article, as were the others, is illustrated. We quote the following interesting portions:

"Ignorance and credulous hope make the market for most proprietary remedies. Intelligent people are not given largely to the use of the glaringly advertised cure-alls, such as Liquozone or Peruna. Nostrums there are, however, which reach the thinking classes as well as the readily gulled. Depending, as they do, for their success upon the lure of some subtle drug concealed under a trademark name, or some opiate not readily obtainable under its own label, these are the most dangerous of all quack medicines, not only in their immediate effect, but because they create enslaving appetites, sometimes obscure and difficult of treatment, most often tragically obvious. Of these concealed drugs the headache powders are the most widely used, and of the headache powders Orangeine is the most conspicuous.

Orangeine.

"Orangeine prints its formula. It is, therefore, its proprietors claim, not a secret remedy. But to all intents and purposes it *is* secret, because to the uninformed public the vitally important word 'acetanilid' in the formula means little or nothing. Worse than its secrecy is its policy of careful and dangerous deception. Orangeine, like practically all the headache powders, is simply a *mixture* of acetanilid with less potent drugs. Of course, there is no *orange* in it, except the orange hue of the boxes and wrappers which is its advertising symbol. But this is an unimportant deception. The wickedness of the fraud lies in this: That whereas the nostrum, by virtue of its acetanilid content, thins the blood, depresses the heart, and finally undermines the whole system, it claims *to strengthen the heart and to produce better blood*. Thus far in the patent medicine field I have not encountered so direct and specific an inversion of the true facts.

"Last July an 18-year-old Philadelphia girl got a box of Orangeine powders at a drug store, having been told that they would cure headache. There was nothing on the label or in the printed matter inclosed with the preparation warning her of the dangerous character of the nostrum. Following the printed advice, she took two powders. In three hours she was dead. Coroner Dugan's verdict follows:

"'Mary A. Bispels came to her death from kidney and heart disease, aggravated by poisoning by acetanilid taken in Orangeine headache powders.'

Prescribing Without Authority.

"Yet this poison is being recommended every day by people who know nothing of it and nothing of the susceptibility of the friends to whom they advocate it. For example, here is a testimonial from the Orangeine booklet:

"'Miss A. A. Phillips, 66 Powers street, Brooklyn, writes: "I always keep Orangeine in my desk at school, and through its frequent applications to the sick I am called both 'doctor and magician."'

"If the school herein referred to is a public school, the matter is one for the Board of Education; if a private school, for the Health Department or the County Medical Society. That a school teacher should be allowed to continue giving, however well-meaning her foolhardiness may be, a harmful and possibly fatal dose to the children intrusted to her care, seems rather a significant commentary on the quality of watchfulness in certain institutions.

"Obscurity as to the real nature of the drug, fostered by careful deception, is the safeguard of the acetanilid vender. Were its perilous quality known, the headache powder would hardly be so widely used. And were the even more important fact that the use of these powders becomes a habit, akin to the opium or cocain habits, understood by the public, the repeated sales which are the basis of Orangeine's prosperity would undoubtedly be greatly cut down. Orangeine fulfills the *prime requisite of a patent medicine in being a good* 'repeater.' Did it not foster its own demand in the form of a persistent craving, it would hardly be profitable. Its advertising invites to the formation of an addiction to the drug. 'Get the habit,' it might logically advertise, *in imitation* of a certain prominent exploitation along legitimate lines. Not only is its value as a cure for nervousness and headaches insisted on, but its prospective dupes are advised to take this powerful drug as a *bracer*. . . .

"Where I have found a renegade physician making his millions out of Peruna, or a professional promoter trading in the charlatanry of Liquozone, it has seemed superfluous to comment on the personality of the men. They are what their business connotes. With Orangeine the case is somewhat different. Its proprietors are men of standing in other and reputable spheres of activity. Charles L. Bartlett, its president, is a graduate of Yale University and a man of some prominence in its alumni affairs. Orangeine is a side issue with him. Professionally he is the Western representative of Ivory Soap, one of the heaviest of legitimate advertisers, and he doubtless learned from this the value of skillful exploitation. Next to Mr. Bartlett, the largest owner of stock (unless he has recently sold out) is William Gillette, the actor, whose enthusiastic indorsement of the powders is known in a personal sense to the profession which he follows, and in print to hundreds of thousands of theater-goers who have read it in their programs. Whatever these gentlemen may think of their product (and I understand that, incredible as it may seem, both of them are constant users of it), the methods by which it is sold, and the essential and mendacious concealment of its real nature, illustrate the level to which otherwise upright and decent men are brought by a business which can not profitably include either uprightness or decency in its methods.

"Orangeine is less dangerous, except in extent of use, than many other acetanilid mixtures which are much the same thing under a different name. A friend of mine with a weak heart took the printed dose of Laxative Bromo Quinin and lay at the point of death for a week. . . .

Dangers of Antikamnia.

"In the 'ethical' field the harm done by this class of proprietaries is perhaps as great as in the open field, for many of those which are supposed to be sold only in prescriptions are as freely distributed to the laity as Peruna. And their advertising is hardly different.

"Antikamnia, claiming to be an 'ethical' remedy, and advertising through the medical press by methods that would, with little alteration, fit any patent pain-killer on the market, is no less dangerous or fraudulent than the Orangeine class which it almost exactly parallels in composition. It was at first exploited as a 'new synthetical coal-tar derivative,' which it isn't and never was. It is simply half or more acetanilid (some analyses show as high as 68 per cent.) with other unimportant ingredients in varying proportions. In a booklet entitled 'Light on Pain,' and distributed on doorsteps, I find under an alphabetical list of diseases this invitation to form the Antikamnia habit:

"'Nervousness (overwork and excesses)—Dose: One Antikamnia tablet every two or three hours.

"'Shoppers' or Sightseers' Headache—Dose: Two Antikamnia tablets every three hours.

"'Worry (nervousness: "the blues")—Dose: One or two Antikamnia and Codein tablets every three hours.'

"Codein is obtained from opium. The codein habit is well known to all institutions which treat drug addictions, and is recognized as being no less difficult to cure than the morphin habit.

"A typical instance of what Antikamnia will do for its users is that of a Pennsylvania merchant, 50 years old, who had declined, without apparent cause, from 140 to 116 pounds, and was finally brought to Philadelphia in a state of stupor. His pulse was barely perceptible, his skin dusky and his blood of a deep chocolate color. On reviving he was questioned as to whether he had been taking headache powders. He had, for several years. What kind? Antikamnia; sometimes in the plain tablets, at other times Antikamnia with codein. How many? About twelve a day. He was greatly surprised to learn that this habit was responsible for his condition.

"'My doctor gave it to me for insomnia,' he said, and it appeared that the patient had never even been warned of the dangerous character of the drug.

"Were it obtainable I would print here the full name and address of that attending physician, as one unfit, either through ignorance or carelessness, to practice his profession. And there would be other physicians all over the country who would, under that description, suffer the same indictment within their own minds for starting innocent patients on a destructive and sometimes fatal course. For it is the careless or conscienceless physician who gets the customer for the 'ethical' headache remedies, and the customer, once secured, pays a profit, very literally, with his own blood. Once having taken Antikamnia, the layman, unless informed as to its true nature, will often return to the drug store and purchase it, with the impression that it is a specific drug, like quinin or potassium chlorate, instead of a disguised poison, exploited and sold under patent rights by a private concern. The United States postoffice, in its broad tolerance, permits the Antikamnia company to send through the mails little sample boxes containing tablets enough to kill an ordinary man, and these samples are sent not only to physicians, as is the rule with ethical remedies, but to lawyers, business men, 'brain workers' and other prospective purchasing classes. The box bears the lying statements: 'No drug habit—no heart effect.'

"Just as this is going to press the following significant case comes in from Iowa:

"'FARMINGTON, IOWA, October 6.—(Special to the *Constitution-Democrat.*) Mrs. Hattie Kick, one of the best and most prominent ladies of Farmington, died rather suddenly Wednesday morning at 10 o'clock from an overdose of Antikamnia, which she took for a severe headache from which she was suffering. Mrs. Kick was subject to severe headaches and was a frequent user of Antikamnia, her favorite remedy for this ailment.'

"There is but one safeguard in the use of these remedies: to regard them as one would regard opium and to employ them only with the consent of a physician who understands their true nature. Acetanilid has its uses, but not as a generic pain-killer. Pain is a symptom; you can drug it away temporarily, but it will return, clamoring for more payment until the final price is hopeless enslavement. Were the skull and bones on every box of this class of poison the danger would be greatly minimized.

"With opium and cocain the case is different. The very words are danger signals. Legal restrictions safeguard the public, to a greater or less degree, from their indiscriminate use. Normal people do not knowingly take opium, or its derivatives, except with the sanction of a physician, and there is even spreading abroad a belief (surely an expression of the primal law of self-preservation) that the licensed practitioner leans too readily toward the convenient narcotics.

"But this perilous stuff is the ideal basis for a patent medicine, because its results are immediate (though never permanent), and it is its own best advertisement in that one dose imperatively calls for another. Therefore it behooves the manufacturer of opiates to disguise the use of the drug. This he does in various forms, and he has found his greatest success in the 'cough and consumption cures' and the soothing syrup class. The former of these will be considered in another article. As to the 'soothing syrups,' designed for the drugging of helpless infants, even the trade does not know how many have risen, made their base profit and subsided. A few survive, probably less harmful than the abandoned ones, on the average, so that by taking the conspicuous survivors as a type I am at least doing no injustice to the class. . . .

"Making cocain fiends is another profitable enterprise. Catarrh powders are the medium. A decent druggist will not sell cocain as such, steadily, to any customer, except upon prescription, but most druggists find salve for their consciences in the fact that the subtle and terrible drug is in the form of somebody's sure cure. There is need to say nothing of the effects of cocain, other than that it is destructive to mind and body alike, and appalling in its breaking down of all moral restraint. Yet in New York City it is distributed in 'samples' at ferries and railway stations. You may see the empty boxes and the instructive labels littering the gutters of Broadway any Saturday night, when the drug store trade is briskest.

"Birney's Catarrhal Powder, Dr. Cloe's Catarrh Cure, Dr. Gray's Catarrh Powder and Crown Catarrh Powder are the ones most in demand. All of them are cocain; the other ingredients are unimportant—perhaps even superfluous.

"Whether or not the bottles are labeled with the amount of cocain makes little difference. The habitués know. In one respect, however, the labels help them by giving information as to which nostrum is the most heavily drugged.

"'People come in here,' a New York City druggist tells me, 'ask what catarrh powders we've got, read the labels and pick out the one that's got the most cocain. When I see a customer comparing labels I know she's a fiend.'

"Naturally these owners and exploiters of these mixtures claim that the small amount of cocain contained is harmless. For instance, the 'Crown Cure,' admitting 2½ per cent., says:

"'Of course, this is a very small and harmless amount. Cocain is now considered to be the most valuable addition to modern medicine. . . . It is the most perfect relief known.'

"Birney's Catarrh Cure runs as high as 4 per cent., and can produce testimonials vouching for its harmlessness."

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of November, 1905:

ALABAMA.

Hale, R. E., Bellamy.
Sims, A. G., Renfroe.

ARIZONA.

Dameron, L. D., Phoenix.
Fales, W. H., Clifton.

ARKANSAS.

Daniel, S. G., Marshall.
Davis, J. H., Falcon.
Jackson, N. H., Pontoon.
Winegar, E. F., Hot Springs.

CALIFORNIA.

Artiques, J. E., San Francisco.
Fairchild, F. R., San Francisco.
Gross, L., San Francisco.
Weddle, C., Dinuba.
White, J. L., Sacramento.
Yerxa, C. W., Los Angeles.

COLORADO.

Moore, W. M., La Junta.
Peairs, J, E., Pueblo.
St. Clair, R., Cripple Creek.

CONNECTICUT.

Barrows, B. S., Hartford.
Buel, J. L., Litchfield.
Bunce, P. D., Hartford.
Gompertz, L. M., New Haven.
Graves, C. B., New London.
Huntington, S. H., Norwalk.
Jones, L. P., Greenwich.
Judson, W., New Haven.
Klein, A. W., Greenwich.
Leverty, C. J., Bridgeport.
Murphy, M. D., Middletown.
Nettleton, I. L., Bridgeport.
Pomeroy, N. A., Waterbury.
Robbins, G. O., Waterbury.
Ryan, P. J., Hartford.
Sherer, H. C., South Norwalk.
Tenney, A. J., Branford.
Winchell, A. E., New Haven.

DISTRICT OF COLUMBIA.

Keyser, C. S., Washington.
Ransdell, R. C., Washington.

FLORIDA.

Finlay, D. H., Pine Barren.
Fitts, T. B., West Tampa.
Freeman, J. V., Jacksonville.
Hutchings, G., Eustis.
Lowry, R. A., Brooksville.
Thomason, F. G., Kissimmee.

GEORGIA.

Phillips, F. H., Harlem.

IDAHO.

Plumer, J. J., Hailey.
Sears, C. E., Wallace.

ILLINOIS.

Arnold, W. J., Chicago.
Avery, W. M., Compton.
Brinckerhoff, C. E., Chicago.
Blackstone, G. R., Table Grove.
Bell, W. H., Decatur.
Cates, E. M., Wayne City.
Clark, E. E., Danville.
DeBoer, H., Chicago.
Dinsmore, V., Jacksonville.
Duncan, W. P., Jacksonville.
Feltmann, A. W., Chicago.
Francis, C. H., Chicago.
Flint, O. J., Princeton.
Fry, C. B., Mattoon.
Garraghan, E. F., Chicago.
Glenn, J. A., Ashland.
Glenn, F. L., Chicago.
Hemml, S. A., Chicago.
Hilliard, D. A., Jeffersonville.
Jones, T. A., Ridgway.
Kern, N. H., Thawville.
Kirk, J. W., Oblong.
Lyles, A. R., Virginia.
Martin, L., Chicago.
Morrill, C. M., Havana.
Perkins, T. L., Springfield.
Sale, L. O., Fisher.
Sims, S. N., Danville.
Tucker, H. S., Chicago.
Thornton, W. T., Chicago.
Way, J. P., Chicago.
Wild, T., Chicago.

INDIANA.

Clapper, M. M., Hartford City.
Cummins, S. M., Elkhart.
Greene, J. B., Mishawaka.
Hunt, L. F., Anderson.
Johnson, L., Bourbon.
Kistner, J. W., Elkhart.
Letherman, A. P., Valparaiso.
Rennoe, C. A., South Bend.
Robinson, C. C., Indiana Harbor.

IOWA.

Coleman, F. J., Everly.
Sargeant, F. L., Marion.
Wiley, E. D., Des Moines.

KANSAS.

Chaffee, S. N., Talmage.
Dewees, W. B., Salina.
Engberg, A., McPherson.
Klingberg, W. A., Elmo.
Maggard, D. I., Wichita.
Richardson, E. F., Onaga.
Reser, S. P., Hartford.
Stewart, R., Powhattan.
Toncannon, T. F., Emporia.
Tower, J. B., Topeka.
Way, F. E., Concordia.

KENTUCKY.

Estill, R. J., Lexington.
Jones, G. R., Franklin.
Reynolds, O. H., Frankfort.

MARYLAND.

Bressler, F. C., Baltimore.
Haddox, H. B., Gaithersburg.
Hodgdon, A. L., Pearson.
Johnson, J. T., Cumberland.
Lewis, H. D., Baltimore.
Requardt, W. W., Baltimore.

MASSACHUSETTS.

Bates, E. A., Springfield.
Blake, C. J., Boston.
Bragg, F. A., Foxboro.
Canedy, F. J., Shelburne Falls.
Clark, G. O., Boston.
Dacey, C. J., Brockton.
Duryee, A. P., Brockton.
Fox, W. Y., Taunton.
Folson, C. F., Boston.
Flynn, J. L., Cambridge.
Goodall, H. W., Boston.
Goldthwaite, S. V., Boston.
Green, C. M., Boston.
Hawes, J. B. 2d, Boston.
Hooker, S. V., Boston.
Hill, T. C., Boston.
Jones, W. W., Housatonic.
Jack, F. L., Boston.
Knickerbocker, P. G., Brookline.
Kilroy, P. D., Springfield.
Kennard, H. D., Peabody.
Miller, C. H., Boston.
Mandell, A. H., New Bedford.
Miles, G. A., Somerville.
McCarthy, C. D., Malden.
Moline, C., Sunderland.
Potter, A. C., Boston.
Powers, G. H., Jr., Boston.
Peebles, T. C., Falmouth.
Putnam, C. P., Boston.
Rowe, G. J. M., Boston.
Shattuck, G. B., Boston.
Sears, H. E., Beverly.
Stevens, H. B., West Roxbury.
Stickney, E. P., Arlington.
Thompson, G. E., Boston.
Treanor, J. P., Boston.
Twitchell, G. P., Greenfield.
Webster, G. A., Boston.
Wood, H. W., Fairhaven.
Wolcott, G., Boston.
Whitney, C. M., Boston.

MICHIGAN.

Arscott, W. W., Rogers City.
Chapman, V. A., Muskegon.
Northrup, W., Grand Rapids.
Potter, G. E., Detroit.
Safford, H. E., Detroit.
Smith, C. F., Whitehall.
Worden, A. L., Detroit.

MINNESOTA.

Golseth, G., Henning.
Jones, S. S., Frazee.
Roberts, L. M., Little Falls.
Vigen, J. G., Fergus Falls.

MISSISSIPPI.

Landreth, J. J., Air Mount.

MISSOURI.

Addington, W. H., Spickard.
Brookes, H. S., St. Louis.
Benway, W. H., Deepwater.
Carson, W., Shelbyville.
Cook, F. L., Blue Springs.
Cox, L., Springfield.
Eastman, F. C., Winston.
Falk, J. C., St. Louis.
Fisher, A. T., Maryville.
Herchenroeder, L. C., St. Louis.
Higdon, E. E., Allenville.
Holtgrewe, F. W., St. Louis.
Hoge, M. W., St. Louis.
La Rue, H., Dexter.
Lemon, F. F., Lincoln.
Moore, B. W., St. Louis.
Muetze, H., St. Louis.
Pickerill, C. W., Kansas City.
Robertson, J. A., Kansas City.
Russell, J. J., Deepwater.
Summa, H. H., St. Louis.
Taylor, A. M., Elsberry.
Terrill, J. O., Vandalia.
Vonderau, O. L., St. Louis.
Wolfner, H. L., St. Louis.

MONTANA.

Horst, C. H., Warm Springs.
Saunders, E. H., Chestnut.
Scanland, J. M., Butte.
Southmayd, L., Great Falls.

NEBRASKA.

Deffenbaugh, M. H., Norman.
Jones, S. J., Minden.
Metzinger, J. J., Fremont.
McLeod, J. M., Lincoln.
Platt, O. D., Cook.
Sutton, I. C., Bancroft.
Williams, J. P., Lincoln.

NEW HAMPSHIRE.

Downing, A. T., Littleton.
Holbrook, H. C., Penacook.
Kenniston, W. B., Exeter.
Lathrop, M. C., Dover.
Pitman, A. J., Candia.
Worthen, E. M., Ashland.

NEW JERSEY.

Borgmeyer, J. G. L., Bayonne.
Fisher, C. R. P., Bound Brook.
Gray, T. N., East Orange.
Madden, T. W., Collingswood.
Neer, R., Paterson.
Townsend, M. E., Atlantic City.
Vinton, M. M., East Orange.

NEW YORK.

Fletcher, E. A., Buffalo.
Grausman, P. M., New York.
Hurd, L. M., New York.
Le Breton, P., Buffalo.
Narey, W. J., New York.

NORTH DAKOTA.

Love, R. H., Thompson.
Van de Erve, W., Pingree.
Walker, J. J., Cavalier.

OHIO.

Anderson, H. B., Newark.
Bauman, G. I., Cleveland.
Bode, M. J., Cincinnati.
Bryson, W. S., Mingo Junction.
Chenoweth, O. E., Lima.
Donley, J., Columbus.
Heath, J. M. S., Bellaire.
Hannum, E. A., Cleveland.
Hiddleson, C. S., Akron.
Marshall, F. M., Coshocton.
McCurdy, L. C., Coshocton.
Medlin, W. A., Cleveland.
Marsh, H. H., Halltown.
Moore, J. W., Carlisle.
Richards, T. J. W., New Philadelphia.
Shrieves, E., Wilmington.
Stedem, J. P. H., Newark.
Walker, C. S., Cleveland.
Ward, C. E., Cleveland.

OKLAHOMA.

Brown, H. C., Okarche.
Dodson, S. D., Maud.
Dodson, T. J., Mangum.
Ebright, E. D., Carmen.
Kuntz, L., Canute.
Larson, T. H., Cushing.
Miller, J. P., Cheyenne.
Omer, W. J., Thomas.
Sanders, P. L., Carnegie.
Woodard, W. G., Snyder.

OREGON.

Lamberson, J. A., Lebanon.
Seely, A. C., Roseburg.

PENNSYLVANIA.

Allen, F. B., North Wales.
Atkins, J. G., Red Lion.
Bowyer, M. A., Philadelphia.
Blackburn, I. E., Greensburg.
Brock, R. E., Waynesburg.
Brown, J. J., Bloomsburg.
Barton, E., Scranton.
Bowman, J. H., Berwick.
Brunner, F. R., Eshbach.
Cohen, M. Solis-, Philadelphia.
Colborn, A. J., Connellsville.
Crawford, J. S., Ingram.
Despart, D. L., Philadelphia.
Gamble, R. B., Meadville.
Gorham, F. C., Coudersport.
Hill, A. H., Ramey.
Ickes, G. A., Altoona.
Johnson, T. B., Jr., Towanda.
Kurtz, W. J., Howard.
Krajewski, F. J., Nanticoke.
Marlatt, M. O., Sewickley.
Martin, J. M., Grove City.
Montgomery, C. M., Philadelphia.
Peterson, A. A., Elizabeth.
Schoff, C. H., Media.
Sinkler, F. W., Philadelphia.
Stevens, J. C., Harrisburg.
Sharpe, A. H., Philadelphia.
Smith, L. B. R., Jeanette.
Thomas, G. D., Chicora.
Van Doren, W., Archbald.
Weidemann, F. H., Morrisdale Mines.
Wagenseller, B. F., Selinsgrove.
Woodside, H. A., Lumber City.

PHILIPPINE ISLANDS.

Patterson, E. W., Mandanao.

RHODE ISLAND.

Calef, F. T., E. Providence.
Knapp, H. J., Newport.
Larrabee, F. W., Block Island.
Phillips, F. G., Providence.
Rose, A. D., Providence.
Sherman, W. A., Newport.

SOUTH CAROLINA.

Neuffer, G. A., Abbeville.
Wyman, H. H., Aiken.

SOUTH DAKOTA.

Groesbeck, S. V., Spearfish.
Silberstein, J., Crow Creek.

TENNESSEE.

Adkisson, J. E., Medina.
Bridger, J. D., Memphis.
Davis, C. H., Knoxville.
Fancher, H. L., Orme.
Gaines, J. A., Nashville.
Hill, W. W., Cardiff.
Kittrell, W. H., Mt. Pleasant.
Snodgrass, J. H., Sparta.
Timmons, E. A., Columbia.
Young, B. F., Knoxville.

TEXAS.

Barnes, L. M., Thorndale.
Denson, J. L., Cameron.
Forrest, B. F., Eagle Lake.
Gorden, R. A., Lorena.
Mathis, E. G., Manor.
Ramsel, P. A., Thorndale.
Southern, G. W., Lincoln.
Thayer, A. E., Galveston.
Walker, R. N., Celina.

VERMONT.

Ball, C. F., Rutland.
Brewster, J. D., Windsor.
Carver, H. S., Marshfield.
Green, L. M., Bethel.
Ladd, H. A., Essex.
Lape, R., Fairhaven.
McGuire, M. F., Montpelier.

VIRGINIA.

Alsop, J. F., Prospect.
Dunn, W. L., Glade Spring.
Edmonson, H. B., Bristol
Jarratt, T. F., Phoebus.
Jones, C. C., Arbor Hill.
Levy, E. C., Richmond.
Morgan, L. D., Longdale.
Rucker, H. C., Horton Summit.

WASHINGTON.

Horsfall, F. L., Seattle.

WEST VIRGINIA.

Armbrecht, E. L., Wheeling.
Graves, G. B., Coalwood.

WISCONSIN.

Blumenthal, R. W., Oconomowoc.
Johnson, H. B., Tomah.
Lid, T. A., Marinette.
Robinson, H. A., Kenosha.

Marriages

S. A. Savitz, M.D., to Miss Sallie Ost, both of Philadelphia, recently.

Scott T. Petrie, M.D., to Mrs. Mathilda Good, both of Chicago, September.

C. Edmund Lerch, M.D., Bernville, Pa., to Miss Jennie Wagner of Robesonia, Pa.

Richard W. Dake, M.D., to Miss Julia Dudley, both of Nashville, Tenn., November 21.

Foster Sudler, M.D., to Miss Elsie L. George, both of Sudlerville, Md., November 29.

Claude B. Cross, M.D., to Miss Bessie A. Taylor, both of Mineral, Kan., November 22.

Francis J. Wilson, M.D., to Miss Anna May Regan, both of Milwaukee, Wis., November 22.

Sol Weir Newmayer, M.D., to Miss Rietta Ulman Hirsh, both of Philadelphia, November 30.

Orville Everette Beebe, M.D., to Miss Mary Edna Wright of Bellingham, Wash., November 29.

Charles E. Glynn, M.D., Davenport, Iowa, to Miss Blanche Langan of Clinton, Iowa, November 22.

Anthony J. Schmit, M.D., Beloit, Wis., to Miss Elsie M. Winkley of Clinton, Wis., November 22.

Lewis F. Zachary, M.D., Byrdstown, Tenn., to Miss Laura Kimes of Monterey, Tenn., November 21.

Thomas Meares Green, M.D., to Miss Emma Perrin West, both of Wilmington, N. C., November 16.

John C. Beauchamp, M.D., Williamson, Ga., to Mrs. Virginia Kenney of Concord, Ga., November 29.

Hiram L. Throgmorton, M.D., Pocahontas, Ark., to Miss Vida Butler of Grapevine, Ark., November 18.

Raleigh A. Buckmaster, M.D., Brandon, Iowa, to Miss Grace A. Jeffers of Cedar Falls, Iowa, November 30.

Harry Gibbons Utley, M.D., Apex, N. C., to Miss Florence Jennings Percival, at Baltimore, November 25.

Philemon Smith Lansdale, M.D., Damascus, Md., to Miss Annie Pyle, at Charlottesville, Va., November 29.

Walter Jameson, M.D., Roanoke, Va., to Miss Frances Virginia Chalmers, at Lynchburg, Va., November 29.

Edward Thomas Anderson, M.D., Platte, S. D., to Miss Julia Edith Orvis of Dubuque, Iowa, November 28.

George Boardman Edwards, M.D., Darlington, S. C., to Miss Marie A. McCullough, at Nashville, Tenn., November 29.

Christian Augustus Dannaker, M.D., Kansas City, Mo., to Miss Mary Beckett Moss of Pawnee City, Neb., November 30.

Samuel J. Gardner, M.D., San Francisco, Cal., to Miss Elizabeth Smith of Sterling, Scotland, at San Francisco, December 6.

Deaths

Edward A. Cobleigh, M.D. Atlanta (Ga.) Medical College, 1872; A.M., LL.D.; one of the founders and dean of the Chattanooga Medical College (Medical Department of Grant University), Chattanooga; professor of the principles and practice of medicine, dermatology and clinical medicine, and lecturer on physical diagnosis at the same institution since 1889; chief of staff at Erlanger Hospital, Chattanooga; member of the Chattanooga and Hamilton County Medical Society, Tennessee State Medical Association, Tri-state Medical Society of Alabama, Georgia and Tennessee, American Public Health Association and American Medical Association; for nine years physician of McMinn County, Tenn.; for one year secretary of the Chattanooga Board of Health, and for four years member of the local board of pension examiners, died at Erlanger Hospital, Chattanooga, November 29, after a short illness, from a complication of diseases. He had practiced in Chattanooga since 1887, and made a success by indefatigable study, untiring activity and a natural adaptability for his vocation. Resolutions of respect were adopted by the faculty of the Chattanooga Medical College, the student classes of the college and the Chattanooga and Hamilton County Medical Society.

Ambrose Loomis Ranney, M.D. New York University, New York City, 1870; a member of the New York County Medical Society, Neurological Society of New York, and once president of the New York Academy of Medicine; formerly adjunct professor of anatomy, New York University, New York City, and professor of nervous and mental diseases in the University of Vermont Medical Department, Burlington; author of "Essentials of Anatomy," "Applied Anatomy of the Nervous System," "Treatise on Surgical Diagnosis," "Practical Medical Anatomy," and many smaller contributions to the medical literature, died suddenly in New York City, December 1, from heart disease, aged 57.

John B. Sterley, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1857; a member of the American Medical Association; surgeon of the One Hundred and Sixty-seventh Pennsylvania Volunteer Infantry, and later district examining surgeon, during the Civil War; a member of the state, county and local medical societies; one of the best-known physicians of Reading, Pa., died at his home in that city, from septicemia due to a carbuncle, after an illness of six months, November 24, aged 69.

William H. Bartran, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1865; a veteran of the Civil War; formerly mayor and superintendent of schools of Fort Howard, Wis.; member of the legislature in 1873 and 1874; physician of Brown County and Green Bay for twelve years; a charter member of Brown County Medical Society, died at his home in Green Bay, November 22, from paralysis, after a long illness, aged 67.

J. Ernest Meiere, M.D. New York University, New York City, 1869; contract surgeon United States Army at the outbreak of the Civil War, but thereafter a surgeon in the Confederate service; appointed consul to Amoy, China, in 1886; city physician of Leadville, Colo., in 1879 and 1880; some-time president of the Lake County (Colo.) and Cripple Creek Medical societies, died at his home in Cripple Creek, December 1, from pneumonia, aged 75.

James N. Reece, M.D. Rush Medical College, Chicago, 1888; in 1898 representative from St. Joseph County in the legislature; local surgeon of the Wabash Railroad; for many years president of the board of education of North Liberty, Ind., died at his home in that place, November 18, after a prolonged illness, from tuberculosis of the bones, aged 49.

Benjamin Myers, M.D. Jefferson Medical College, Philadelphia, 1869; representative in the Ohio legislature from Ashland County from 1874 to 1877; twice probate judge of Ashland County; once mayor of Ashland; a veteran of the Civil War, died from pneumonia at his home in Ashland, November 21, after an illness of a few days, aged 67.

James A. Smeallie, M.D. Albany (N. Y.) Medical College, 1879; formerly of Duluth, Minn.; a member of the Minnesota State Medical Society, Inter-urban Academy of Medicine and St. Louis County Medical Society, died at his home in Cass Lake, Minn., November 25, from tuberculosis, after a long illness.

Joseph Warren Hayward, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1864; surgeon in the federal service during the Civil War, and later surgeon of the Third Infantry, M. V. M., died at his home in Taunton, Mass., November 21, after a lingering illness, aged 64.

Frank Weeks Blair, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1899, of Farmingham N. H.; physician of Strafford County, died at the Cottage Hospital, Portsmouth, N. H., from carcinoma of the stomach, after a long illness, aged 31.

John Samuel Angle, M.D. Jefferson Medical College, Philadelphia, 1862; a surgeon during the Civil War, and for many years local surgeon of the Pennsylvania System, died at his home in Strafford, Pa., November 15, after a prolonged illness, aged 64.

Edmund Bennett, M.D. Jefferson Medical College, Philadelphia, 1855; a member of the Ocean County board of freeholders since 1878, and for many years a director of the board, died at his home in Barnegat, N. J., November 23, from heart disease.

Charles H. Jacobs, M.D. Medical Department of Adelbert College of Western Reserve University, Cleveland, 1883, of Youngsville, Pa., died November 24 at the Emergency Hospital, Warren, Pa., a day after an operation for appendicitis, aged 49.

Joseph B. Davis, M.D. Missouri Medical College, St. Louis, 1883; of Marshall, Mo.,; a member of the Saline County Medical Society, died from nephritis at Excelsior Springs, Mo., November 24, after a long illness, aged 62.

Martha A. Anderson, M.D. College of Physicians and Surgeons, Boston, 1887; formerly a missionary in India, and then a practitioner of Boston and Philadelphia, died at her home in Shelburne, Mass., November 23, aged 62.

Frank H. Hopkins, M.D. Harvard University Medical School, Boston, 1903, of South Boston, Mass., died at Antrim, N. H., November 17, after a long illness, from typhoid fever complicated with pneumonia.

B. H. Lemon, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1885; coroner for the counties of Lincoln and Welland, Ont., was found dead in bed at his home in Thorold, November 28.

Thomas B. Robison, M.D. Medical College of Ohio, Cincinnati, 1891, formerly of Rossville, Ind., died from tuberculosis at Denver, Colo., November 19, after an illness of several years, aged 38.

Salmon B. Sayre, M.D. University of Wooster Medical Department, Cleveland, 1890, died suddenly in his office at Oelwein, Iowa, November 27, from heart disease, aged 36.

Calvin J. Sharp, M.D. San Francisco, 1889, of Rockford, Iowa, died in the Cherokee State Hospital from cerebral hemorrhage, November 14, after an illness of two months, aged 46.

Asabel G. Hopkins, M.D. Cincinnati, 1877, a veteran of the Civil War, died at his home in Muskegon, Mich., November 22, after a lingering illness, from senile debility, aged 86.

Thomas H. Butler, M.D. Hospital College of Medicine, Louisville, 1898, of Monticello, Miss., was shot and instantly killed in his office by Mrs. James F. Birdsong, November 25.

Alphonse Gladu, M.D. University of the Victoria College, Coburg, Ont., 1867, died suddenly at his home in Lafayette, La., November 20, from cerebral hemorrhage, aged 60.

George O. Caldwell, M.D. New York University, New York City, 1886, of Scranton, Pa., died suddenly in the railway station at Manchester, N. H., November 18, aged 45.

Charles H. Barbour, M.D. University of Vermont Medical Department, Burlington, 1874, died at his home in North Clarendon, Rutland County, Vt., November 21, aged 56.

Kate L. S. Sterling, M.D. Women's Medical College, Philadelphia, 1886, a member of the New York County Medical Society, died at New York Hospital, December 1.

William S. Cardwell, M.D. University of Nashville (Tenn.) Medical Department, 1859, died at his home in Prospect, Tenn., November 26, after an illness of two weeks.

William M. Gwynn, M.D. Pennsylvania, 1868, died at his home in Auburn, N. Y., November 21, from pneumonia, after an illness of four days, aged 71.

John William Green, M.D. Rush Medical College, Chicago, 1889, died at his home in Lacey, Iowa, November 21, from uremia, after a short illness.

Milton Welsh Warfield, M.D. Jefferson Medical College, Philadelphia, 1850, died at his home near Lisbon, Howard County, Md., November 26, aged 78.

Albert Philips Hallowell, M.D. Pennsylvania, 1900, died suddenly at his home in Ashbourne, Pa., from heart disease, November 26, aged 28.

Thomas B. Tandy, M.D. Louisville (Ky.) Medical College, 1876, died at his home in Winfield, Kan., November 24, from nephritis.

J. T. Bennett, M.D. 1855, died at his home in Brookville, Pa., November 15, from dropsy, after an illness of two years, aged 83.

Emma DeL. Burd, M.D. New Jersey, 1880, died at her home in Yonkers, N. Y., November 22, after a short illness, aged 61.

Bennett Downes, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Frederica, Del., November 25.

Levi Wood, M.D. Albany (N. Y.) Medical College, 1865, died at his home in Ephratah, N. Y., November 28, aged 62.

George H. Gilson, M.D. St. Louis Medical College, 1876, died at his home in Raymond, Ill., November 17, aged 58.

Queries and Minor Notes

HAS TETANUS FOLLOWED QUININ OR MORPHIN HYPODERMICS?

Dr. E. F. McCampbell, Madison, Wis., desires to know if any practitioner knows of a case of tetanus resulting from the hypodermic injection of either quinin or morphin under supposedly aseptic precautions.

CONFIDENTIAL CORRESPONDENCE.

A correspondent has sent us the letter which we reproduce below, which was received at the institution with which he is connected—a reputable sanitarium. It illustrates the methods used by certain unscrupulous individuals and firms handling patent medicines and who advertise that "all correspondence is strictly confidential":

"*Dear Sir*: I have about 1,500 names of users of morphin, cocain, opium, etc., and they are all names taken from letters of inquiries and are all *bona fide* and of recent compilation.

If you can use these names at one cent a name, I would be glad to take the matter up with you.

Thanking you in advance for an answer, I am, ———."

CONTRACT PRACTICE.

Dallas, Texas, Nov. 17, 1905.

To the Editor:—Kindly inform me through The Journal: 1. If it is unethical to belong to a medical club which does the medical practice of its members for stipulated monthly or weekly fees. 2. Whether it is unethical to make visits to members of the club for less than the regular fees, if the physician making the visits does not belong to the club and if the visits are made to poor people who are unable to pay regular fees. A. D. Ferguson, M.D.

Answer.—The general principles underlying club practice have frequently been discussed in The Journal. As a general proposition the profession views club practice as inimical to its best interests, and ultimately unsatisfactory to the public. In particular instances like the one submitted above it is entirely within the province of the local society to decide whether the special proposition is or is not compatible with ethical standards, and subservient to the interest of layman and physician. If possible the full facts should be presented to the society, for its action thereon in any event will determine whether a member may serve the club and also remain in good standing.

The second query involves several different points so that no one answer can be given. Fees should not be cut, except for the poor. For an outside physician to attempt to underbid the club fees in order to get some of the work is unwise, though, perhaps, not flagrantly unethical. That is not the way to meet the evils of club practice. This second problem also should be thoroughly thrashed out in the society. Get every educated reputable physician into the society and agree on fundamental points and then exterminate the quacks.

FOURTH DISEASE.

Minden, Neb., Nov. 21, 1905.

To the Editor:—I would like to know through The Journal the latest ideas concerning "Filatow-Dukesche Krankheit," or fourth disease in regard to its relation to scarlet fever, also where I can obtain the latest and most authoritative works on the subject.

J. R. McKirahan.

Answer.—"Fourth disease" is the name given by Clement Dukes to a series of cases described by him in the *Lancet*, 1900, vol. ii, 1889, cases which resembled in their clinical manifestations either rubella or scarlet fever. A similar set of cases was described by Filatow in 1885, hence the name sometimes applied to this clinical picture, "Filatow-Dukesche Krankheit." The weight of opinion, however, seems to be that the clinical picture described by these writers does not constitute a disease *sui generis*, but that the cases described are either rubella or mild scarlet fever. The verdict seems to be "not proven." A recent discussion of the subject appeared in *La Semaine Médicale*, March 29, 1905, by Cheinisse, in which the literature is also reviewed. The following authors also have written on the subject: Griffith: *Phila. Med. Journal*, 1902, vol. ix, p. 659. Ker: *Practitioner*, 1902, vol. lxviii, p. 139. Dillingham: *American Medicine*, 1903, vol. vi, p. 263. von Bokay: *Deutsch. med. Wochft.*, Oct. 20, 1904. Shaw: *American Jour. Med. Sciences*, January, 1905. Filatow's book on pediatrics is published by the Cleveland Press, 346 Ogden Ave., Chicago. The weight of medical opinion, as stated above seems to be against Dukes' view. Until we know more about the bacteriology of scarlet fever and rubella, however, it is difficult to see how the question can be definitely settled. Meanwhile it would seem safer to regard those cases of the so-called "Fourth Disease" which resemble scarlet fever, as actual cases of the latter and treat them as such, especially as far as isolation is concerned. If they really are cases of scarlet fever, what is a mild infection in one child may give rise to an exceedingly severe infection in another child.

SCOPOLAMIN-MORPHIN ANESTHESIA.

Juda, Wis., Dec. 4, 1905.

To the Editor:—Can you inform me by whom scopolamin is manufactured and where it can be obtained? I fail to find it in any of the drug stores here. H. B. Gifford, M.D.

Answer.—Scopolamin is not a new drug, it has been used to a certain extent for several years. It was first isolated as an alkaloid of scopola, hence the name. According to the eighth decennial revision of the United States Pharmacopeia, scopolamin hydrobromid is the hydrobromid of an alkaloid obtained from plants of the *Solanaceæ*, and is chemically identical with hyoscin hydrobromid. It occurs in crystals. It is a sedative, and as a mydriatic its action is somewhat similar to that of atropin, but without the disagreeable symptom of dryness of the throat. The similarity of action between this drug and hyoscin is evidently overlooked by many physicians or is unknown to them, and this, in conjunction with the fact that many individuals show a marked idiosyncrasy for hyoscin should be borne in mind when using drugs of this class. Scopolamin hydrobromate is made by Merck, and differs little, if any, from the hydrobromid. It also occurs in hygroscopic crystals. The manufacturers claim that it may be used externally in ophthalmology and internally (by hypodermic injection) in insane patients. It is used for local anesthesia in conjunction with morphin. While reports of successful operations find their way into the newspapers and into medical literature, unsuccessful operations apparently are not noticed. Recently, however, numerous fatalities have been reported. De Maurans has reviewed the literature on this subject, and in a recent article in *Semaine Médicale* he discusses the advisability of using this form of anesthesia. In most of the cases reported there was interference with respiration, as evidenced by dyspnea and cyanosis, and the Cheyne-Stokes type of respiration. In one case cited, about half an hour after the second injection of the scopolamin-morphin solution when the patient was lying on the operating table he was observed to be breathing with difficulty, and about three minutes later there was dyspnea and cyanosis. Artificial respiration was performed, but the patient died about five hours after the injection, with symptoms of asphyxia. Dr. J. C. Sexton, in the *Lancet Clinic* for November 18, also reports a death from this form of anesthesia.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of Medical officers, U. S. Army, week ending December 2:

Wadhams, S. H., asst.-surgeon, leave of absence extended 30 days.

Bratton, Thomas S., asst.-surg., relieved from duty as attending surgeon and examiner of recruits, Chicago, and ordered to Philippine Islands, for duty, on January 5.

Wadhams, S. H., asst.-surg., relieved from further duty at Alcatraz Island, Cal., and will proceed from Torrington, Conn., where on leave of absence, to Fort Slocum, N. Y., for duty.

Connor, C. H., asst.-surg., ordered to proceed from Fort Stevens, Ore., to San Francisco, for duty as witness before a general court martial.

Ford, Clyde S., asst.-surgeon, ordered to proceed from Fort Barrancas, Fla., to Cleveland, Ohio, on official business pertaining to the inspection of a motor ambulance designed for the Medical Department of the Army.

Davidson, Wilson T., asst.-surg., advanced to the rank of captain, November 26.

Reagles, James, contract surgeon, returned to duty at Fort Keogh, Mont., from leave of absence.

Parkman, Wallace, contract surgeon, left Fort Assinniboine, Mont., with troops for San Francisco.

White, J. Samuel, contract surgeon, granted an extension of one month to his leave of absence.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending December 2:

Stuart, A., P. A. surgeon, detached from the *Pensacola* and ordered to command the Naval Hospital, Sitka, Alaska.

Bachmann, H. A., P. A. surgeon, commissioned P. A. surgeon from March 20, 1905.

Traynor, J. P., Strine, H. F., P. A. surgeons, commissioned P. A. surgeons from May 8, 1905.

Neilson, J. L., P. A. surgeon, commissioned P. A. surgeon from October 4, 1905.

Ransdall, R. C., asst.-surgeon, appointed asst.-surgeon from November 24, 1905.

Beyer, H. G., medical inspector, ordered to the *Wisconsin*.

Neilson, J. L., asst.-surgeon, detached from the naval hospital, New York, N. Y., and ordered to the naval hospital, Newport, R. I.

Shaw, H., asst.-surgeon, detached from the naval hospital, Boston, Mass., and ordered to the *Southery* and to additional duty at the navy yard, Portsmouth, N. H.

Vickery, E. A., asst.-surgeon, ordered to the *Illinois*, December 4.

Dorsey, B. H., asst.-surgeon, detached from the Illinois, December 4, and ordered home to wait orders.

Belknap, J. L., asst.-surgeon, detached from the naval hospital, Newport, R. I., and ordered to the *Brooklyn*.

Wheeler, L. H., asst.-surgeon, detached from the naval hospital, Newport, R. I., and ordered to the Asiatic station, sailing from Seattle, Washington, December 16.

Stepp, J., P. A. surgeon, detached from the *Southery*, and ordered to the *Don Juan de Austria*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ending November 29:

Magruder, G. M., surgeon, relieved from duty at San Francisco.

Magruder, G. M., surgeon, granted leave of absence for four months from October 26.

Guiteras, G. M., surgeon, to proceed to Memphis, Tenn., for special temporary duty.

Wertenbaker, C. P., surgeon, relieved from special temporary duty at Atlanta, Ga., and directed to proceed to St. John, N. B., for immigration duty, relieving P. A. Surgeon J. W. Kerr.

Rosenau, M. J., P. A. surgeon, leave of absence granted for fourteen days from November 22, amended to read November 23.

Nydegger, J. A., P. A. surgeon, granted leave of absence for one month and five days from November 27.

Gardner, C. H., P. A. surgeon, granted extension of leave of absence for one month, from December 1.

Lavinder, C. H., P. A. surgeon, leave of absence granted for one month from November 6, amended to read twenty-one days from November 6.

Fricks, L. D., P. A. surgeon, granted leave of absence for one month from December 10.

Wille, C. W., P. A. surgeon, granted leave of absence for two months, from December 10.

Rucker, W. C., assistant surgeon, leave of absence granted for seven days from November 7, amended to read twenty-one days from November 11.

Ward, W. K., assistant surgeon, granted leave of absence for four days under paragraph 191 of the regulations from November 23.

Foster, A. D., asst.-surgeon, relieved from special temporary duty at Trieste and directed to rejoin station at Naples.

Robertson, H. McG., asst.-surgeon, relieved from temporary duty at the Bureau, Washington, D. C., and directed to proceed to Philadelphia, reporting to the medical officer in command for duty.

Collins, G. L., asst.-surgeon, granted leave of absence for two days under paragraph 191 of the regulations from November 23.

Ebert, N. G., asst.-surgeon, granted leave of absence for two months from November 24.

Wightman, W. M., asst.-surgeon, granted three days' leave of absence under paragraph 191 of the regulations from November 13.

Steger, E. M., asst.-surgeon, relieved from duty at Philadelphia, and directed to report to the commanding officer of the Revenue Cutter *Algonquin* for duty on said vessel in Porto Rican waters.

Kastle, J. H., chief division hygienic laboratory, granted leave of absence for eight days from November 27.

Goldsborough, B. W., acting asst.-surgeon, granted leave of absence for three days from November 29.

Hallet, E. B., acting asst.-surgeon, granted leave of absence for three days from November 29.

Hicks, B. I., acting asst.-surgeon, granted leave of absence for four days from November 28.

Hume, Lea, acting asst.-surgeon, granted leave of absence for thirty days from November 26.

McConnell, A. P., acting assistant surgeon, granted leave of absence for three days from November 29.

Tarbell, B. C., acting asst.-surgeon, granted leave of absence for ten days from November 21.

Walkley, W. S., acting asst.-surgeon, granted leave of absence for three days from November 30.

Richardson, S. W., pharmacist, granted leave of absence for twenty-three days from November 23.

Stier, C., pharmacist, granted leave of absence for seven days from November 22, under paragraph 210 of the regulations.

BOARDS CONVENED.

Board to meet at the Bureau, Washington, D. C., December 4, for the physical examination of certain officers of the R. C. S. detail for the Board: P. A. Surgeon T. B. McClintic, chairman; Asst.-Surgeon J. W. Trask, recorder.

Board to meet at the Appraisers Building, San Francisco, December 4, for the physical examination of certain officers of the Revenue-Cutter Service. Detail for the Board: P. A. Surgeon H. S. Cumming, chairman; P. A. Surgeon J. M. Holt, Recorder.

Board to meet at Boston, December 4, for the physical examination of certain officers of the Revenue-Cutter Service. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, Recorder.

Board to meet at the Marine-Hospital, Mobile, Ala., December 4, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the Board: P. A. Surgeon E. Francis, chairman; Acting-Asst.-Surgeon A. S. Taylor, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended November 27:

SMALLPOX—UNITED STATES.

California: Los Angeles, Nov. 11-18, 3 cases.
District of Columbia, Washington, Nov. 12-18, 1 case.
Florida, Jacksonville, Nov. 11-18, 3 cases.
Kentucky: Covington, Nov. 18-25, 8 cases.
Maine: Westport, Nov. 21-23, 2 cases.
Michigan: Kalamazoo, Nov. 12-18, 3 cases.
Missouri: St. Louis, Oct. 1-31, 12 deaths.
Ohio: Springfield, Nov. 17-24, 2 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Oct. 1-7, 4 cases.
Brazil: Rio de Janeiro, Oct. 15-22, 7 cases, 2 deaths.
Canada: Toronto, Nov. 11-18, 4 cases.
Chile: Iquiqui, Oct. 14-21, 7 cases, 2 deaths.
Ecuador: Guayaquil, Oct. 24- Nov. 7, 9 deaths.
France: Paris, Oct. 29-Nov. 4, 8 cases, 1 death.
Great Britain: Sheffield, Oct. 29-Nov. 4, 1 case.
Italy: Catania, Nov. 2-9, 3 deaths.
India: Calcutta, Oct. 1-14, 2 deaths; Madras, Oct. 14-27, 9 deaths.
Mexico: Mexico, Oct. 22-Nov. 4, 3 cases, 6 deaths.
Spain: Barcelona, Nov. 1-10, 6 deaths.

YELLOW FEVER—UNITED STATES.

Louisiana: New Orleans, Nov. 21, 2 cases.
Mississippi: Vicksburg, Nov. 24-29, 3 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 15-22, 2 cases, 2 deaths.

Cuba: Habana, Nov. 10-20, 25 cases, 2 deaths; Matanzas, Nov. 25, 1 case.

Ecuador: Guayaquil Oct. 22-Nov. 7, 7 deaths.

Honduras: Choloma, Nov. 13, 1 death.

Guatemala: Gualan, Aug. 20-Nov. 9, (estimated), 200 deaths; Zacapa, Aug. 3-Nov. 9 (estimated), 700 deaths.

Mexico: Cordoba, Nov. 5-8, 1 case, 2 deaths; Tezonapa, 1 case, 3 deaths; Tierra Blanca, 2 cases, 1 death; Tuxtepec, Nov. 5-19, 4 cases, 3 deaths; Vera Cruz, 3 cases, 3 deaths.

Nicaragua: Managua, Sept. 29, 3 cases.

Panama: Colon, Nov. 8-15, 1 case, 1 death; Panama, 1 case.

CHOLERA—FOREIGN.

India: Bombay, Oct. 17-24, 1 death; Calcutta, Sept. 23-Oct. 21, 178 deaths; Madras, Oct. 14-27, 123 deaths.

Russia: Lodz, Oct. 22-25, 4 cases; Vistula Territory, 6 cases; Lomja, 1 case; Warsaw, Oct. 17-24, 2 cases, 4 deaths.

Straits Settlements: Singapore, Oct. 1-7, 3 cases.

PLAGUE—INSULAR.

Honolulu: Oct. 7-Nov. 4, 8 cases, 8 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Oct. 15-22, 9 cases, 1 death.

Egypt: Alexandria, Nov. 8, 1 case.

India: General, Oct. 14-21, 4407 cases, 3336 deaths; Bombay, Oct. 17-24, 19 deaths; Calcutta, Sept. 30-Oct. 21, 32 deaths; Karachi, Oct. 15-22, 22 cases, 23 deaths.

Japan: Kobe, Nov. 20, present; Osaka, present.

Medical Organization

OREGON PRACTICALLY AN UNORGANIZED STATE.

By J. N. McCormack, M.D.

Chairman of the Committee on Organization of the American Medical Association.

BOWLING GREEN, KY.

Being an amiable optimist by nature, adverse criticism of any one, and more especially of those who have been kind to me, is always a difficult and unpleasant task. Still, I conceive it to be my duty after visiting a state in my official capacity, kindly and subject to correction always, but frankly and without fear or favor, to discuss professional conditions just as my investigations revealed them. In fact, years of experience have convinced me that this is the only course to pursue where reforms are to be hoped for, and that if it is done in the proper spirit, and is supplemented by such practical suggestions as may seem pertinent, and may prove helpful, it will never be misunderstood.

Outside of Astoria and Clatsop County there is little real organization in Oregon. Factionalism in the profession in the city of Portland, led by rival surgeons and other specialists, is almost entirely responsible for this demoralization in the state. In my opinion there is no hope for improvement until this is recognized and this strong and excellent profession can be harmonized and united for its own and the public good, in accordance with the modern spirit of organization.

They have a live local society of the old sort, honeycombed with and dominated by rival factions, most respectful and decent in form and expression, as might be expected from such leaders, but so evenly balanced and alert as to consume nearly all of their public energies, and so evidently personal and selfish as to fail to enlist the support or to command the confidence of the rank and file of the profession of the city or state for either side, and to effectually bar progress for it as a whole. The information came to me from various sources that many of the most active and influential physicians were outside of the society, some because they were kept out by factional jealousies and more because membership did not seem desirable under existing conditions. For instance, when it was suggested in my opening talk that a united profession ought to enlist the support of the press in the proper education of the public in regard to health and medical affairs and in the warfare against quackery, and that the family physicians of the leading newspaper men be put on a committee to confer with them, it developed that the physician of the most promient editor of the state had been repeatedly blackballed by the society and hence could not well be asked to serve in this capacity.

These statements will come as a surprise to members of the Association who attended the Portland session and enjoyed the hospitality of the profession of that beautiful city. This surprise was only intensified with me when the opportunity for a more extended and personal acquaintance, and inquiry has confirmed my first impression of the high character and capability of the very men who were contributing most to the discord which is proving so disastrous to the best interests of the profession and people of their city and state.

To appreciate the extent to which these unfortunate professional conditions in Portland affect the state, it should be remembered that it is the only great center of population and commercial metropolis in Oregon, and that this city dominates in legislative and all other affairs to an extent which would be possible in few other states. And the state reflects the conditions found in the city very acurately. They had paper organizations in every county or district visited by me, meeting at long intervals and thought important chiefly as a means of keeping up membership in the state and national organizations. There were a few good men everywhere, but the average grade of the profession was low and the spirit non-progressive. Their law is weak and is so administered as to give quacks and pretenders no trouble. There was evidence on every hand that the schools of Oregon do not have high standards of requirements, and that their state examinations are such as to make this the dumping ground for low-grade men who fail to pass in neighboring or even distant states. The fees are much lower than in any other state visited on this trip, and commercialism—division of fees, lodge and other forms of contract practice, and similar evils—is more pronounced and widespread. I heard many apparently reputable men say over and over again that they would not think of sending a case to any surgeon who would not divide his fees with them. Similar expressions and other evidences of improper or defective methods inseparable from an unorganized profession were heard and found frequently. In the same locality would be found men of high attainments and character, natural leaders, who could easily become the backbone of a county society and make almost anything possible to the profession.

I urged such local organizations in every county where there were as many as three or four live physicians as would make their society a place for joint study, in effect a postgraduate or review school, and a social and business club. After they are thoroughly united and ready for it, I advised that the bar, ministerial, teachers, druggists' and other similar local associations be invited to meet with them for such discussion and joint instruction as will promote a co-operation so essential to the highest development and usefulness of our profession. I advised that legislators and other officials be especially invited to take part in these discussions in order that they may appreciate how largely the profession is influenced by purely altruistic motives in its efforts to secure and to enforce medical and health legislation.

I attended and addressed meetings at Astoria, Portland, The Dalles, Salem, Albany, Eugene, Grant's Pass and Medford, covering all except the eastern end of the state. Dr. Hamilton, the active and courteous secretary of the state association, gave prompt notice of the meetings, and as the medical population is practically confined to the towns, the meetings were fairly well attended.

The Astoria and Clatsop County Society is entitled to special and honorable mention, not only because it is an oasis in Oregon, but because it would be a credit to the profession in the best organized states. It is almost three years old, with every physician in the county, including two former homeopaths, and, I believe, one eclectic, enrolled as members. With the exception of one who lived twelve miles away, on the opposite side of the Columbia River, and was hindered by a fierce storm, every member was in attendance at the meeting held for me. Three circuit judges, the bar association and other laymen were present and took a leading part in both the discussion and the banquet which followed. These laymen had attended former meetings and contributed much to the interest and usefulness of the society, especially in the adjustment of the business affairs of the profession. The leaders of the profession in this county had grasped the co-operative spirit of this reform movement in a practical way at the outset, and as soon as the state association adopted the new plan, decided to give themselves the benefit of it. After a few conferences they succeeded in substituting harmony and co-operation for the discord and antagonism which had been as pronounced there in the past as it could have been anywhere. After uniting the profession solidly they abolished all lodge and contract practice in one week's time. A little later they revised their schedule of fees and put collections and the other business affairs of the profession on a modern basis, satisfactory alike to themselves and their patrons. They were most responsive to my suggestion for frequent meetings and systematic study, and promised to take prompt steps to this end, and also to enter into co-operative educational work with the other learned professions and the public generally. Altogether this impressed me as one of the most united and promising local societies to be found in any part of the country. If the profession of Portland could be induced to unite in this work, and would expend the energies on it in the future which its leaders have wasted in the past, the foundation for real organization could be laid before the next annual meeting of the state association, and plans made for legislative and other much needed reforms. Many of the smaller counties could undertake the work as successfully as Clatsop County did, without the assistance of Portland, and with the profession there in discord, but I got the impression that a majority of them would not do so.

My personal experience in Oregon was most pleasant. Mrs. McCormack was with me everywhere, and the physicians and their families vied with each other in contributing to our entertainment and comfort. I am tempted to mention individuals in this connection, but the hospitality was so general and generous that this will not be attempted. If a profession with such leaders could only be unified everything would be possible to it, and it is in the hope of arousing them to this duty that I have hesitatingly and reluctantly expressed these criticisms.

Iowa.

POCAHONTAS COUNTY MEDICAL SOCIETY.—We have received the program of the annual meeting of this society and find it suggestive of methods that will accomplish much good. Both an afternoon and evening meeting are provided for, with dinner between. The afternoon program is filled with regular medical papers and business. This is the purely professional and scientific part. Then follows dinner; this is the social—a very important—part, for it is this that brings men together, makes them understand and know each other, and thus dissipates jealousies. In the evening is the public meeting, at which the patient and the physician meet on a common level. The program before us states that at this meeting, besides music and recitations, three papers are to be heard: "Preventive Medicine and the Relation the Public Bears to the Profession," by a member; "The Public School as a Factor in the Public Health," by the superintendent of public schools, and "The Doctor—Both Sides of Him," by a member. This will be the second meeting of this society to which the public has been invited, the former experiment having been a success.

This method of educating the public is being adopted by but a few isolated societies; it should be utilized by every county society in the country. The public wants to learn, is ever open to conviction, and a free interchange of views between the layman and the physician will result in good to both. The teacher, the lawyer, the editor will attend such meetings and the public-spirited citizen will always be a willing co-operator. These will leaven public opinion. There should be open, free discussion of business matters in these public meetings, as well as of the ethics of medicine and of health and disease.

We have one criticism to offer on the program of the Pocahontas society; it is that no provision is made for discussion at the public meeting. Less music and fewer recitations and time for discussion will make more interesting gatherings and bring about better results. It is the heart-to-heart talks that are wanted.

Kansas.

ALLEN COUNTY MEDICAL SOCIETY DID NOT DISBAND.—The following seems to be a morsel that is pleasing to a certain class of newspapers, for it has appeared in many of them:

> SHORT-LIVED SOCIETY.
>
> At Iola, Kansas, Thursday, the physicians of the county met and organized a society, fixing rates, all being the same. On Friday,

the prosecuting attorney of the county had warrants issued for the arrest of every physician in the county who joined the society, for the purpose of prosecuting them under the anti-trust law. The physicians were given until next Monday to disband their organization and they gave it out that they would do so.

We sent a clipping to the secretary of the society referred to, who has replied as follows:

"The Allen County Medical Society is now and has been in existence for nearly two years. Our old original society is three years old. We disbanded and reorganized March 28, 1904, in order to affiliate with the State Medical Society. We believe we have one of, if not the best county society in the state, and have our state charter. The meeting referred to was our regular meeting, which is the third Wednesday in each month. At this meeting we revised our fee bill, and our prosecuting county attorney merely stated to us that in his opinion we had violated the anti-trust law by agreeing to the fee bill. No warrants were ever issued, nor will there be any issued, as we will correct the matter at our next meeting. I desire that you publish this letter to show to the world, and especially to the medical profession, that newspapers are many times unreliable, especially along medical lines.

"J. W. Bolton, Secretary Allen County Medical Society."

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynecological Association, Louisville, Ky., Dec. 12-14.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

AMERICAN TUBERCULOSIS EXHIBITION.

Held in New York City, Nov. 27 to Dec. 8, 1905, under auspices of the National Association for the Study and Prevention of Tuberculosis and the Committee on the Prevention of Tuberculosis of the Charity Organization Society at the American Museum of Natural History.

The idea of the exhibition is to show the methods that are being adopted throughout this country and Europe to prevent and to cure consumption. Toronto, Canada, had on exhibition the model of a tuberculosis sanatorium. There were models of sanatoria which are in use in the different states. Chicago sent models of her hospital buildings for this disease. Pennsylvania also had a fine exhibition, the institution at White Haven being specially deserving of mention. New York State had a large model of the sanatorium at Raybrook, which has been in operation two years. New York City showed how it takes care of its tuberculosis patients in tents on Blackwell's Island and in other places. There were several model tents and contrivances by which the sick person can breathe fresh air both day and night. There were also models of improved tenement houses which are a feature of the general plan for the prevention of the spread of tuberculosis. In contrast with these were specimens of the old-time dark bedrooms which are held responsible for a great deal of tuberculosis in the city.

Economics of Antituberculosis.

Dr. Thomas Darlington, health commissioner of the city of New York, presided at the opening meeting, November 27.

Morris K. Jesup, in the opening address, said that if the people could awaken to the awful condition of the poor who are afflicted with this disease the effort they would make would result in vanquishing this plague.

Dr. Thomas Darlington said that the object of the exhibition was to educate the public in regard to the prevalence of consumption and to teach them the best methods of prevention and cure. He spoke of what it would be worth to the city and to the individual if we could eradicate this disease. He said that the cost of educating a child is about $50.00 a year in the public schools; yet 24 per cent. of the deaths from tuberculosis occur between the ages of 15 and 25. He asked what is the use of educating children if they are going to die before they are able to use their education. If we are going to take such great pains and expense in their training we are morally bound to look to their physical condition as well. There are 28,000 cases of tuberculosis in Greater New York. The Board of Health is endeavoring to aid these by sending nurses, by clinics, by visiting physicians and by the distribution of literature. The greatest difficulty they encounter is the failure on the part of physicians to report cases of this disease. He thought, however, that at the present time from 90 to 95 per cent. of the cases are reported. During the past year 19,000 sputum examinations have been made, of which 6,000 proved not to be tuberculosis. Some of the worse cases were curable; 8 per cent. of the bad cases on North Brothers Island recovered and 60 per cent. were improved. He emphasized the necessity of an early recognition of the disease. The lungs of school children were now examined and adenoids removed. Forty-eight per cent. of the school children had something wrong which very often laid the foundation for tuberculosis. He urged more sanitary conditions in factories, shops and houses. After the death or removal of a tuberculous patient the Board of Health disinfects the rooms. He thought expectoration in public places could not be effectually done away with by law, but only by an educated public opinion. He strongly deprecated the use of patent medicine and drugs in combating this disease, as in most instances they are only alcoholic stimulants.

Talcott Williams, of Philadelphia, said that civic responsibility is just as direct and necessary in dealing with this disease as in dealing with political corruption. Our only hope lies in knowledge and in the education of the masses. He said that every case of consumption is a visible proof of social failure; the remedy is an individual sense of responsibility. If there are 5,000 deaths from consumption on the island of Manhattan, practically all of which can be prevented, and from 10,000 to 15,000 cases which could be saved from death, it is because neither the city nor the citizens have discharged their duty.

Health for Workers.

Dr. Thomas Darlington presided at the meeting held on November 29. The subject discussed was "Health for Workers."

Herman Robinson, of the Central Federated Union, said that organized labor was doing all in its power to better social conditions in general, but particularly in connection with tuberculosis. It had made many workshops more healthful and was using every effort in that direction from day to day.

Prof. Graham Taylor, of Chicago, spoke of the work in the West and told what had been accomplished there.

J. W. Sullivan, editor of the official publication of the garment workers and a member of the Typographical Union, told what had been done to improve sweatshop conditions, and called attention to the interesting collection of photographs illustrating the fearful conditions still existing in East Side sweat shops.

Recent and Coming Congresses.

On Friday evening, December 1, with **Dr. Hermann M. Biggs** in the chair, **Dr. Lawrence F. Flick**, of Philadelphia, gave a brief history of the various tuberculosis conventions held since 1898 and outlined a plan for a congress to be held in Washington in 1908. He proposes that the expenses of this congress be defrayed by asking for $100,000, which could be raised by twenty wealthy men subscribing $5,000 each. It is his intention to endeavor to get this money at once and to permit it to remain undisturbed until 1908, when the accumulated interest will be distributed in prizes. He would give prizes on this occasion for the best exhibits from any country, for the best set of laws and ordinances dealing with conditions affecting tuberculosis, for the best sanatorium, the best pavilion, the best hotel, the best factory or workshop, etc. He proposes that the scientific portion of the congress be continued for one week in Washington, and that the social portion one week preceding and one week following the scientific sessions be held in various cities.

Dr. Edward L. Trudeau, Saranac Lake, spoke of the work of sanatoria and said that he believed that future work in dealing with tuberculosis would be along the lines of specific treatment.

Dr. W. A. Evans, Chicago, member of the Tuberculosis Commission said that Chicago needed more agitation in regard to the means of getting rid of this disease. Chicago had but from $1,500 to $2,500 with which to combat this disease; in fact, only the small fines secured from milk dealers and a few other petty offenders. In every instance we should seek the assistance of societies or other agencies working along kindred lines in our work against tuberculosis. Not more than 2 per cent. of consumptives are able to leave home and we must find a way to cure them at home. We must keep on trying to teach the value of fresh air and fighting the draught fiends. Consumption should not be viewed as an infectious disease alone, but should be regarded as something more if we ever expected to entirely eradicate it. If we were ever to make this scourge disappear we must learn to live more hygienic and more simple lives.

Dr. Vincent Y. Bowditch, Boston, said that he wished to sound a conservative note in regard to statements as to the results in the treatment of tuberculous subjects. This is too treacherous a disease to speak too early or with too much certainty of our successes. Too precipitate statements from physicians and overstatements of the press are harmful to the cause.

Exile and Drugs in the Treatment of Tuberculosis.

Dr. Abraham Jacobi, of New York, related the trials of the poor patient afflicted with tuberculosis and showed how impossible it is for him to go away from home in most instances. Statistics show that there is only one bed in a sanatorium for every 30 persons having tuberculosis; consequently home treatment has to be instituted. Much was said about Nature's remedies, fresh air, good food, etc., but drugs were Nature's remedies, too, and should not be neglected in every case. When in a family we see child after child show signs of tuberculosis it is well to look for syphilis in the mother. We should be careful to keep mucous membranes in a healthy condition and to see that enlarged tonsils are properly cared for. By proper attention to such matters one often obviates the necessity of treating consumption later. We should teach the value of exercise, cold water, a copious supply of oxygen, and that night air is better than no air. In addition to air, food and clothing we should recognize that there are drugs which, if wisely used, will help us in the treatment of this disease. In his hands guaiacol has given some very encouraging results, especially in the treatment of renal tuberculosis.

(*To be continued.*)

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Early Pulmonary Tuberculosis.

Price, in *Edinburgh Med. Jour.*, states that the cough which occurs early in the morning and which is accompanied by expectoration, is of service and should be encouraged. For the cough at night he recommends a cup of hot milk or cocoa, or tea, at bedtime, and occasionally through the night. In some cases he recommends a sufficiently warm alkaline draught similar to the following:

℞. Sodii bicarb..........................gr. x |65
Sodii chloridi ....gr. v |30
Ammon. carb..........................gr. iii |20
Spts. chloroformi..........................m. v |30
Aq. anisi q. s. ad..........................℥i 30|

M. Sig.: At one dose in a wineglassful of warm water or milk.

In some of these cases of early tuberculosis in *which the* cough is troublesome a small blister or iodin is recommended, applied to the subclavian region on the *affected side. An* irritable and ineffectual cough persisting through the *day, accompanied* by a very scanty expectoration after prolonged efforts, is best managed by instructing the patient *to restrain* the cough as much as possible and to use an *inhalation containing* menthol, creosote, oil of eucalyptus or oil of pine. A combination similar to the following is recommended in some cases:

℞. Olei euclaypti ....ʒiii 12|
Olei amagdylæ amaræ..........................ʒi 4|
Spts. chloroformi ....℥i 30|

M. Sig.: From 10 to 75 drops to be inhaled, half an hour after the first morning cough; again at noon and in the evening. Or the following may be used as a modification of Dr. Coghill's formula:

℞. Tinct. iodi ether (Br.)
Acidi carbol., āā..........................ʒii 8|
Creosoti ....ʒi 4|
Spts. vini rect., q. s. ad..........................℥i 30|

M. As an inhalation. Or:

℞. Sol. menthol alc. (20 per cent.)........ʒii 8|

Sig.: Ten *minims placed* in an inhaler and inhaled for one-half hour. Or:

℞. *Creosote*
Sol. menthol alc. (20 per cent.)
Spts. chloroformi, āā..........................ʒi 4|

M. Sig.: Twenty drops to be inhaled from a sponge for one hour.

In case the foregoing combinations do not check the cough sufficiently this author recommends that a 2 per cent. solution of cocain be sprayed on the back of the throat. In some cases ipecac, potassium iodid or sodium bromid may be of value. Anodynes should be the last resort in these cases.

If the expectoration is peculiarly tenacious ammonium chlorid should form a part of medical treatment.

In the later stages of the disease, when the secretion is excessive, the internal administration of balsams or the inhalation of antiseptics such as creosote or turpentine, is the best treatment. If the patient shows indications of becoming exhausted during the night from the aggravated cough it will probably become necessary to administer some form of opium. There is danger, however, of upsetting the stomach, and this must be avoided if possible. Codein is less liable to disturb the stomach than the other preparations of opium. The following combination is recommended:

℞. Codeinæ ....gr. 1/6 |01
Acidi citrici..........................gr. v |30
Spts. chloroformi..........................m. v |30
Mucil. acaciæ ....ʒi 4|

M. Sig.: To be taken at one dose and repeated as the individual case requires.

If paroxysms of coughing arise which terminate in vomiting of food, the patient should be instructed to lie perfectly quiet after a meal. In some such cases the following is advised by the author:

℞. Aluminis ....gr. v |30
Liq. potassæ ....m. v |30

M. Ft. cap. No. i. Sig.: To be taken just before nourishment.

If hemoptysis should arise and is sufficient in amount to require *treatment, rest in bed* is the important measure; this lowers blood *pressure, slows the circulation* and diminishes the movements of the lung. The patient should lie in the recumbent position with the head *and shoulders* elevated. And all unnecessary movements and *talking should* be prohibited. Warmth should be applied to the feet if the patient feels chilly.

All stimulants must be withheld, the food must be cold and limited to a pint and a half of *milk* a day, *two* ounces of meat essence, four ounces of bread *and one-fourth* ounce of butter. An icebag may be of value applied to the chest, but the author states very aptly *that its only value*, perhaps, is in preventing the patient from sitting up, and similarly, the sucking of ice for the time *soothes the* cough and causes the patient to believe that something is being done *for* him.

One of the most *important* means of checking hemoptysis, according to this writer, is *to lower* blood pressure by means of catharsis and free *purgation. He* recommends saline purgatives as the most *valuable*, such as the following:

℞. Sodii sulphatis..........................
Magnesii sulphatis ....gr. xx 1|30
M. Ft. pulvis. Sig.: One such powder every *four* hours. ....ʒi 4|

In cases in which hemoptysis is *profuse* a hypodermic injection of morphin may be given and repeated sufficiently often to keep the patient partially under the *influence* of the drug for several days. [Morphin, however, should be used only when absolutely necessary, and then with great caution.—Ed.] The only hemostatic from which the author has obtained results is the oil of turpentine given in 10-minim doses. Also ergotin is recommended hypodermically in doses of grains 1 to 3 (.06 to .20) as a hemostatic.

When hemorrhage of the lungs comes on suddenly and in considerable amount, so that the patient's strength is reduced and he becomes nervous, Thompson, in his *Practical Dietetics*, recommends absolute quiet in bed without a pillow, so that the body may be flat and the head and arms should on no account be raised. The patient should not be allowed to feed himself. A nurse should be in charge and small quantities only of food should be given at one time through a glass tube or by a teaspoon, so that the head need not be raised. If nausea occurs every effort must be put forth to control it, otherwise the muscular effort may bring on another hemorrhage. The blood pressure in the lungs must be reduced in order to allow the coagulation of blood to occur over the oozing surface, therefore, large quantities of fluid should not be taken at one time. The patient is usually thirsty from the loss of blood and temporary drying of secretions. The thirst may be relieved by crushed ice and small quantities of cold acidulated drinks, such as very dilute phosphoric acid or sour lemonade, and if the condition of the stomach is in proper condition, plain milk may be given, otherwise pancreatized milk and strong beef broth not exceeding two or three ounces in as many hours. The advantage of administering all fluids cold, according to this author, is overrated. Warm fluids have a somewhat more stimulating effect on the heart and are more rapidly absorbed, but the theory that cold taken in the stomach exhibits any great reflex, constricting action on the blood vessels of the smaller bronchi is not a rational one, according to this author.

In cases in which exceptionally large hemorrhages occur with a consequent loss of blood, it becomes necessary to give larger quantities of fluid, and salt water injections may be resorted to.

If there is no return of hemorrhage after one or two days the diet should be increased and the anemia consequent on the bleeding must be treated by abundant meat diet, avoiding alcoholic stimulants unless danger of heart failure should arise.

In the administration of cod-liver oil in tuberculosis the following combination after Bricemoret is recommended in *Twentieth Century Pract. of Med.*:

℞.	Olei morrhuæ	℥xii	360	
	Syr. tolutani	℥vi	180	
	Tincturæ tolutani	gr. xii		75
	Olei caryophyilli	gtt. ii		12

M. Sig.: Shake the mixture well and take one tablespoonful two or three times a day.

Iodoform, which is also recommended by some authorities in all degrees of phthisis, is recommended in the following combination:

℞.	Iodoformi	gr. iss		09
	Codeinæ	gr. 1/3		02
	Ext. cascaræ	gr. ss		03

M. Ft. pil. No. i. Sig.: One such pill three times a day.

If diarrhea is present the following is recommended:

℞.	Iodoformi	gr. xxx	2	
	Acidi tannici	gr. lx	4	

M. Ft. chart. No. xl. Sig.: From two to four powders daily.

Cinnamon has many advocates as a remedial agent in tuberculosis and may be combined as follows:

℞.	Quin. sulph	gr. vi		40
	Tinct. cinchonæ co.			
	Syr. aurantii, āā	℥iss	45	
	Aq. cinnamomi q. s. ad	℥viii	240	

M. Sig.: One tablespoonful three or four times a day. Or:

℞.	Essentiæ thymi			
	Essentiæ eucalypti			
	Essentiæ cinnamomi, āā	m. lxxx	5	20
	Olei olivæ (sterilized)	℥iiiss	105	
	Iodoformi	gr. lxxv	5	
	Bromoformi	m. xxx	2	

M. Sig.: Forty-five minims to be dropped into the trachea once a day.

Prescription for Asthma.

A correspondent calls our attention to an error in a prescription in The Journal, Nov. 25, 1905, page 1688. As corrected the prescription should read as follows:

℞.	Tincturæ lobelia	m. x		6
	Heroin hydrochloratis	gr. 1/24-1/2		0027-.0054
	Ammon. muriatis	gr. v		3
	Spiritus ætheris comp. q. s. ad	ℨi	4	

Medicolegal

Restriction on Use of Wood Alcohol.

Chapter 274 of the Laws of Wisconsin of 1905 provides that no person, firm or corporation shall require or wilfully permit the use of wood alcohol, or shellac or other material dissolved or mixed with wood alcohol, or columbian spirits, within any vat or tank, in such manner as to cause injury to or endanger the life or health of the person so using it, or of any other person.

Change in Requirements.

Chapter 41 of the Laws of Washington of 1905 amends section 3 of the act regulating the practice of medicine and surgery in that state by providing that each applicant for a license "shall be a graduate of some duly authorized medical college now having, if it still be in existence, at least a four years' graded course." The fee for examination shall be $25. And there is nothing said about reciprocity.

Provision for Prevention of Contagious Diseases.

Chapter 333 of the Laws of Wisconsin of 1905 appropriates to the State Board of Health a sum not exceding $50,000 for the two years ending Feb. 1, 1907, which shall be for a fund which, by and with the advice and consent of the governor, may be drawn on by the said board and used by it in such manner as may seem to it to be necessary to prevent the introduction or spread of Asiatic cholera or other dangerous contagious diseases in the state.

Must Report Tuberculosis.

Chapter 55 of the Laws of Utah of 1905 provides that it shall be the duty of every physician in the state, every superintendent of hospital or public institution in the state to immediately report to the State Board of Health every case of tuberculosis which he is called on to treat or which is in such hospital or public institution. Each and every physician or superintendent shall make such reports as may be called for by the rules and regulations made by said board to prevent the spread of such disease. Any person violating any provision of this act shall be guilty of a misdemeanor.

No Formaldehyd in Milk or Food Products.

Chapter 50 of the Laws of Washington of 1905 provides that any person who shall sell, offer to sell, or have in his possession for the purpose of sale, either as owner, assistant, or in any manner whatsoever, whether for hire or otherwise, any milk or any food products, containing the chemical ingredient commonly known as formaldehyd, or in which any formaldehyd or other poisonous substance has been mixed, for the purpose of preservation or otherwise, shall be guilty of a felony, and on conviction thereof shall be imprisoned in the penitentiary for a period of not less than one year nor more than three years.

No Advertising to Cure Venereal Diseases.

Chapter 78 of the Laws of Washington of 1905 provides that any person who shall advertise that he will treat or cure venereal diseases or disorders, or any venereal disease or disorder shall be guilty of a misdemeanor, and on conviction thereof shall be imprisoned in the county jail for a period of not less than one month nor more than six months. Any owner or managing officer of any newspaper in whose paper shall be printed or published such advertisement as is described in this act shall be guilty of a misdemeanor, and on conviction thereof shall be imprisoned in the county jail for a period of not less than one month nor more than six months.

Provides for State Tuberculosis Sanatorium.

Chapter 361 of the Laws of Wisconsin of 1905 provides for what is to be known as the Wisconsin State Tuberculosis Sanatorium for the treatment of pulmonary tuberculosis, especially for cases in the incipient stages of this disease. The general supervision and government of this sanatorium, except the financial supervision, shall be vested in an advisory board, which shall consist of five members appointed by the governor, one of whom shall be a member of the State Board of Health and at least two other members shall be licensed physicians, graduates of a reputable medical college. Applicants for admission to the sanatorium shall be examined at various places throughout the state designated by the advisory board.

State Hygienic Laboratory Continued.

Chapter 471 of the Laws of Wisconsin of 1905 continues for a period of two years at the state university in conjunction with the existing laboratories in bacteriology, the laboratory which was authorized by the legislature of 1903, known as the Wisconsin State Hygienic Laboratory. The purpose of this laboratory shall be to undertake the examination of water supplies for sanitary purposes, the examination of material from various contagious and infectious diseases with the purpose of aiding in the determination of proper diagnosis of such diseases, to examine into the nature and cause of disease outbreaks throughout the state, to study hygienic and sanitary problems relating to diseases and their dissemination, or any other problems that bear directly or indirectly on the public health.

Duties of Physicians Relative to Certain Diseases.

Chapter 192 of the Laws of Wisconsin of 1905 provides that in every city of the first, second, third and fourth classes it shall be the duty of every physician to report to the department of health in every such city, in writing, the full name, age and address of every person suffering from any one of the infectious or contagious diseases following, to-wit: Measles, smallpox, diphtheria (membranous croup), scarlet fever (scarlatina), typhoid fever, tuberculosis (of any organ), rubella (rötheln), chickenpox, typhus fever, plague, erysipelas, Asiatic cholera, whooping cough, cerebrospinal meningitis, yellow fever. It shall be the duty of every physician to report forthwith in writing to the said department of health the death of any person who dies from, or while suffering with or from any infectious or contagious disease, and to state in such report the specific name and type of such disease.

It shall be the duty of every physician, etc., in any such city, to report to the department of health thereof, in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation and latest address of every person afflicted with tuberculosis, who is in their care, or who has come under their observation, within one week of such time. It shall be the duty of every person sick with this disease, and of every person in attendance on any one sick with this disease, and of the authorities of public or private institutions or dispensaries, to observe and enforce all the sanitary regulations of such health department for preventing the spread of pulmonary tuberculosis.

In case of the vacation of any apartment or premises by death from tuberculosis, or by the removal therefrom of a person or persons sick with tuberculosis, it shall be the duty of the person or physician in charge, to notify the commissioner of health of such city within twenty-four hours thereafter, and such apartments or premises so vacated shall not again be occupied until duly renovated and disinfected as herein provided. In case any orders or directions of the commissioner of health requiring the disinfection of any articles, premises or apartments shall not be complied with within thirty-six hours after such orders or directions shall be given, then it shall be the duty of the commissioner of health to cause a placard in words and form as follows, to be placed on the door of the infected apartments, or premises, to-wit:

NOTICE.

Tuberculosis is a communicable disease. These apartments have been occupied by a consumptive and may be infected. They must not be occupied until the order of the health commissioner directing their renovation and disinfection has been complied with.

This notice must not be removed under a penalty of law, except by the commissioner of health, or an authorized officer.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

November 25.

1 *Yellow Fever in Cuba. J. Guiteras, Havana, Cuba.
2 *Relation of Stomach Disorders to Diabetes Mellitus. J. P. Sawyer, Cleveland, Ohio.
3 *Ambulant Treatment of Internal Hemorrhoids. C. F. Martin, Philadelphia.
4 *Disinfection of Dwelling Houses and Bedding. A. H. Stewart, Philadelphia.
5 *Purpura [illegible] Report of a Case Occurring During [illegible] veringen, Ft. Wayne, Ind.
6 Perniciou[illegible] Disappearance of the Parasite. H. D. Bloombergh and J. M. Coffin, U. S. A.

1. **Yellow Fever in Cuba.**—Guiteras relates the circumstances of the last days of yellow fever in Havana, and uses the facts as arguments in support of the view that the mosquito is the only means of transmission of the disease. As some doubt has been expressed by some as to the demonstrative value of the experimental cases produced by Guiteras at Las Animas Hospital, he shows that there could have been no other source for the infection than the experimental application of the infected mosquito. He relates further how the disease has been introduced several times into Cuba without its ever taking a foothold in that old home of the disease, though the Las Animas Hospital may be looked on as a veritable powder magazine charged with explosives in the shape of accumulated fomites.

2. **Relation of Stomach Disorders to Diabetes Mellitus.**—Sawyer reports 19 cases which show that much may be accomplished for the comfort and relief of many diabetics by direct attention to the condition of the stomach. Of these 19 patients, 14 gave evident histories of previous dyspeptic trouble, 1 of alcoholism without dyspepsia, 3 of slight indigestion, and only 2 reported a complete freedom from dyspeptic disturbance. As to the duration of the glycosuria, 9 of the 19 have been diabetic for years, 7 for months, 1 possibly for a month, while in 2 the period is thought to have been from one to six weeks. From these considerations, as well as from the clinical history, all may be excluded from the range of alimentary glycosuria. Among them were cases of the severest type, as well as of the milder forms. With reference to the condition of the stomach, 16 show abundant catarrhal mucus in the contents of the stomach; 2 do not show this catarrhal process, and from 1, owing to age and disinclination, no test meal was obtained. As to motor function, 10 show a considerable failure, and of the 18 patients the secretion of hydrochloric acid in 8 is increased; 7 show normal proportions, 3 show less than normal or absent. Of the 19 patients all but 2 show definitely active catarrhal processes, and in every case of the 18 there has been marked subjective benefit—gain in strength, weight, freedom from thirst, and polyuria—gained by direct attention to the catarrhal process. The most striking effect has been observed on the polyuria and thirst. In some cases the percentage of sugar has undergone no change, but there has been in these cases a great reduction of the total excretion of sugar *per diem*, owing to the great change in the quantity of urine excreted, and the clinical course of this group of diabetics has been much more favorable under direct treatment of the stomach than without it. Moreover, the cessation of this treatment has been followed by the recurrence of the difficulty with prompt relief on resuming the treatment directed to the catarrhal process. In most of the cases lavage formed an important part of the treatment, antiseptic and alkaline solutions being used.

3. **Ambulant Treatment of Internal Hemorrhoids.**—Martin asserts that the treatment of internal hemorrhoids by hypodermic injection has fallen into disrepute among surgeons because it is the accepted method of the advertising quack. The many complications and accidents must not be ascribed to the method itself, but to the unscientific and insanitary technic employed by this ignorant class of irregular practitioners. It is to be remembered, Martin states, that the injection method is a surgical procedure as truly as the clamp and cautery or the ligature operations, and, therefore, is not a method to be

employed by the general practitioner. The advantages of the injection method are that the patient need not give up his business while under treatment and is not required to take an anesthetic like ether or chloroform. The treatment is usually painless and the complications few if the case is handled properly. The disadvantages are that, in a few instances, the treatment may be a little prolonged, and when the piles are greatly thickened and fibrous they do not completely disappear. For these cases Martin usually employs the ligature, operating under local anesthesia. The complications, such as pain, hemorrhage and strangulation, can be avoided by performing a free divulsion of the sphincter muscles under nitrous oxid anesthesia. This anesthetic is quick, safe and non-irritant, and the patient need not be confined to bed after the operation. About four days after divulsion, or when the primary sorenes has subsided, the treatment by injection may be commenced. Martin employs a 50 per cent. solution of phenol, injecting from 7 m. to 10 m. of this solution directly into the center of the pile. The injection is made through a conical speculum, care being taken first to swab off the surface of the pile with an antiseptic solution. The speculum is then withdrawn, allowing the rectal walls to collapse, after which the syringe may be removed. After introducing a suppository containing 3 m. of ichthyol the patient may return to his usual occupation. These suppositories are also used twice daily—one after stool and one at bedtime. Treatments should be given at intervals of from two to seven days and should be continued until all the hemorrhoidal masses have disappeared. Martin says that the method, if properly used, is perfectly safe; when it fails to cure no harm has been done, and one of the other operative methods may be tried.

4. **Disinfection of Dwelling Houses and Bedding.**—Stewart has devised an apparatus for the disinfection of dwelling houses and bedding. The apparatus consists of a tank made of heavy brass, 18 inches high and 8 inches in diameter. An air-pump attached to the side furnishes the air pressure and in this position also prevents the squirting of formalin solution into the face of the operator. There is no rubber hose on the machine and no rubber gaskets; the rubber tube generally used being supplanted by an ordinary gas bracket with two joints, which can be set in any position so that the operator can remain in an erect posture at all times. The stream of formalin is broken up by a whirling device at the extremity of the gas bracket. A continuous fine spray without the mixture of air can be thrown easily at a distance of from ten to twenty feet, allowing the operator to cover the surface of the room before the gas becomes unbearable. When loaded with two gallons of solution the weight of the machine is twenty-five pounds. About 500 square feet of surface can be gone over in three minutes. With a 5 per cent. solution of formaldehyd gas a series of 2,000 tests showed 97 per cent. of surface disinfection. The results were equally gratifying from a series of experiments to test the value of this method in the disinfection of bedding.

5. **Purpura Hemorrhagica During Pregnancy.**—Van Sweringen reports a case of purpura in a young woman of 25, which appeared in the fifth month of her first pregnancy. Hemorrhages occurred from the gums and nose, into the cellular tissue and skin, and appeared in the urine and vaginal discharge. From none of these localities was the bleeding very profuse or serious at any one time. Continuing, however, over a period of two or three weeks, considerable anemia was produced and the prognosis was rendered unfavorable. The hemorrhagic tendency subsided, however, the pregnancy went to term, the delivery was accomplished by forceps and was followed by no unusual hemorrhage, the puerperium being perfectly satisfactory. The treatment adopted consisted of rest in bed, 5-grain doses of calcium chlorid with 1 grain of extract of suprarenal gland every three hours and gelatin *ad libitum.* Several cervical cauterizations in the early months of pregnancy, done to relieve the severe nausea and vomiting, are looked on as possible causes of the condition because of the purulent discharge which followed. Absorption of infectious material from the cauterized areas seems probable, although no leucocytosis was present.

Medical Record, New York.

November 25.

7 Differential Diagnosis of Ectopic Gestation. B. H. Wells, New York.
8 *Facts Concerning the Early Diagnosis of Pulmonary Tuberculosis. J. H. Pryor, Saranac Lake, N. Y.
9 *Submucous Resection Operation for Deviation of the Nasal Septum; with Description of Several New Instruments. L. M. Hurd, New York.
10 Conservative Gynecology. C. G. Cumston, Boston, Mass.
11 *Tryon, N. C., as a Climatic Resort. H. J. Garrigues, New York.

8. **Early Diagnosis of Pulmonary Tuberculosis.**—Pryor states that as the result of observation and experience gained while acting as the first medical superintendent of the New York State Hospital for the Treatment of Incipent Tuberculosis, his conviction that pulmonary tuberculosis is rarely recognized at an early and proper time for successful treatment, has been decidedly strengthened. This conclusion is corroborated by the fact that the hospital, which was created under a law providing that only incipient cases could be admitted, has never contained more than one-third of the number of cases that could be accommodated. Inquiries submitted to a number of sanatoria in the United States to learn the percentage of incipient cases received, as thus defined, reveal the fact that the average percentage of all patients under treatment which could be designated as early and favorable varies from 2 to 30. An analysis of all cases treated at the New York State Hospital shows that 60 per cent. were received. In attempting to account for this state of affairs Pryor says that one reason is that the patient does not seek medical advice early enough. This is especially the case among the poor, who also often receive incompetent counsel when they do go to a physician or dispensary. Other reasons are the faulty education in medical schools and the recent tendency to give prominence to laboratory methods at the expense of the skill of the clinician. The classical symptoms almost invariably presented in combination, are loss of appetite, chlorosis or anemia, loss of weight, cough, with or without expectoration, hemorrhage, and fever. It is extremely rare that all of these are associated at an early time. They are apt to be present at a later stage. This is particularly true of patients who have had rest, nourishing diet, and open-air treatment. Many times, under these conditions, few or no symptoms are apparent, and yet the disease may be progressive. The author also discusses at length the physicial examination of the chest and points out the necessity for painstaking examination of the patient with clothing removed to the waist.

9. **Submucous Resection for Deviation of Nasal Septum.**—Hurd describes this operation, which he considers preferable to the older methods used for correcting deviations of the septum. The procedure consists in incising the mucous membrane over the deviation in a curve with the concavity backward. The flap of mucous membrane and perichondrium is elevated and the cartilage is scratched through with a curette until the mucous membrane of the other side is reached. This layer is then also separated from the septum and the portion of the latter forming the projection is excised with Ballenger's swivel knife. If bone must be removed the author's special down-cutting forceps is used. The mucous flaps are allowed to fall together and are kept in opposition for a few days by light packing. Hurd pays great attention to securing proper cocainization of the parts, and states that the operation may take from ten minutes to an hour. Several of the special instruments invented by Hurd are described and illustrated.

11. **New Climatic Resort.**—Garrigues praises Tryon, N. C., very highly as a resort for rheumatic and gouty people, convalescents after serious diseases or operations, anemic persons, those affected with tuberculosis, heart disease, or any ailment of the respiratory tract. Tryon is situated in the western part of North Carolina, at the foot of the steep slope forming the connection betwen the mountainous region and the lowland, slightly above the thirty-fifth degree of north latitude, at an altitude varying from 1,000 to 1,200 feet above sea level, and about 250 miles from the Atlantic. The weather is mild and dry without extremes of temperature, winter or summer, and the author believes it is the best all-year-round climate in the United States. The annual number of sunny days is very large, drainage is perfect, and mosquitoes are rare. It can be

reached from New York in twenty-five hours, with one change of cars.

Boston Medical and Surgical Journal.

November 23.

12 Use of the Biograph in Medicine. W. G. Chase, Boston.
13 *Simple Method of Measuring and Graphically Plotting Spinal Curvature and Other Asymmetries by Means of a New Direct-Reading Scoliometer. G. W. Fitz, Boston.
14 The City Physician, His Duties and Responsibilities. J. H. McCollom, Boston.

13. **New Direct-Reading Scoliometer.**—Fitz sets forth a method which he considers practical, simple, accurate and inexpensive, by which definite measurements can be made. The apparatus employed comprises: 1. A scoliometer consisting of a sheet of transparent celluloid 2/100 inches in thickness and 52 cm. long, by as great a breadth as is desired, a convenient breadth being 16 cm., with rectangular graduations and with two level glasses set at right angles to each other for determining the level of both the horizontal and vertical lines of graduation. The longitudinal graduations are 1 cm. apart and every second one has waterproof black ink run into the line to facilitate the measuring. The cross lines, which are 3 cm. apart, also may be inked, but ordinarily it is not necessary. A small level glass (A), the tube of which is bent to the curve of a circle of 12-inch radius, is fastened on the lower part of the sheet at exact right angles to the longitudinal lines, so that when the bubble is on its index these lines are exactly vertical. Another similar level glass (B) is fastened in like manner on the central part of the sheet and adjusted so that when the bubble is at the index the longitudinal lines are horizontal and the cross lines vertical. 2. A black flesh pencil for making the spinous processes of the vertebra, anterior superior spines, clavicles, scapula and such other points as it is desired to measure for record. 3. Card catalogue cards of such size and graduation as desired, for recording and plotting. The method of application of the scoliometer is as follows: 1. To measure deviation of the spine the patient stands on a chair or platform about sixteen to twenty inches in height; the tins of the spinous processes of the vertebræ, the posterior superior spines, the spines and lower angles of the scapula are spotted with the flesh pencil. The scoliometer is then placed on the back in such a way as to bring the zero point of the longitudinal scale to the tip of the seventh cervical vertebra, and to bring the lower end of the midvertical line to the cleft of the buttocks. The middle line of the scoliometer then corresponds with the line of the spine, provided the latter is normal. If abnormal, the amount of lateral deviation from the median line is measured directly in the following manner: Looking at the back through the scoliometer and keeping the eye well away from the latter (about two feet), with the line of vision approximately perpendicular to the plane of the scoliometer at the point where the measurement is being made, the graduations of the scoliometer projected on the back of the subject are seen, and the amount of the deviation from the median line is shown in centimeters and fractions. The vertical distance is read and recorded downward from the zero point on the seventh cervical spine to the successive distances, and the amount of lateral deviation of the spine from the median line is noted at each of these successive points (or such of them as are necessary to define the curve). 2. To measure the lateral deviation at the spine with reference to a true vertical midline, the scoliometer is placed on the back of the patient with the zero of the seventh cervical process, the bubble of level A being at its index; the lines of the scoliometer are vertical and the measurement can be carried out as above. This is usually a more significant measurement, since it measures lateral posture as well as deformity. 3. The lateral contour of the trunk, if desired, may be measured, recorded and plotted by the scoliometer in like manner, either by having the scoliometer broad enough to include the entire trunk or by shifting the median line of the narrower scoliometer a measured distance to each side of the median position recorded as above and then measuring the deviations of the side contours and plotting them in their proper relation to the median curve. 4. To measure the lateral displacement of the shoulders in relation to the pelvis the zero point of the scoliometer is placed on the tip of the seventh cervical spine; the scoliometer is swung to the vertical position; the latter distance of the lower end of the median line is read off from the cleft of the buttocks, and recorded as displacement of shoulders to right or left of pelvis. 5. The lateral tilt of the pelvis, due to a short leg, to congenital deformity, or to functional shortening through flattening of the arch of one foot or relaxation of knee when bearing weight, may be measured by spotting the anterior superior iliac spines with the flesh pencil and then applying the scoliometer so that the longitudinal lines are horizontal as determined by level B; if the zero line is then adjusted to one of the anterior superior spines the relation of the other to it is determined and any tilting present is discovered and measured. 6. By holding the scoliometer at the side of the patient it is possible to measure and to record antero-posterior curves with a fair degree of satisfaction in many cases, though the apparatus is not especially adapted to this purpose. 7. With the scoliometer in a horizontal position the difference in levels of shoulders can be instantly measured. The observer should stand in front of the subject. A number of other applications of the scoliometer are feasible as, for example, measuring the lateral or antero-posterior deviation of the head, the level of the eyes, and the horizontal and vertical position of the arms.

Medical News.

November 25.

15 *Treatment of Bronchitis in Children. J. E. Winters, New York.
16 *Pieseometer for the Accurate Determination of Abdominal Rigidity. T. W. Kilmer, New York.
17 Perforation of an Ulcer of the Duodenum, with Remarks on the Diagnosis and Treatment of this Affection. C. G. Cumston, Boston, Mass.
18 Care of the Aged and the Infirm in the Tropics. M. G. Y. Martinez, Manila, P. I.
19 Substitution of Drugs in the Dispensing of the Physician's Prescription. W. J. Cruikshank, Brooklyn, N. Y.
20 A Phase of the Yellow Fever. L. O'Connell, Washington, D. C.

15. **Treatment of Bronchitis in Children.**—Winters says that the treatment of bronchitis in children necessitates intimate acquaintance with the structure of the bronchi, and with every alteration in this structure at each step and every hour of the morbid process. The child should be placed in a crib—never on a bed. The crib should be flannel lined and should be in the center of the room—never near a wall, window or door. Sometimes it becomes necessary to place screens about the crib to avoid draught. Light flannel should envelop the child's body, arms and legs. This, says Winters, comprises nine-tenths of the treatment to be adopted in a case of moderate severity. In severe cases the drug recommended by him is aconite, to be given in water only, in small (less than one drop) doses, repeated often. Intestinal elimination, diaphoresis, aconite and sweet spirits of niter are the febrifuge measures employed by Winters. Coal-tar derivatives he considers contraindicated. Cold applied to the cutaneous capillaries he says is unphysiologic, pernicious and conducive to extension. It is wrong to give stimulating expectorants. When the secretion becomes excessive, the child should be kept in the prone position to secure gravitation of the secretions. Emetics may be given. Oxygen inhalations should be continuous—even during sleep. These measures Winters supplements with mustard packs and maximum doses of spirits of camphor and carbonate of ammonia. He has found castor oil, in 10-minim doses a most efficient remedy for the harassing cough in inflammation of the upper respiratory passages. In older children in whom the irritation of coughing superinduces nervous irritability, small doses of codein may be given. [*This drug should be used cautiously in children.*—Ed.] He discountenances the use of steam inhalations on the ground that they increase the susceptibility to cold, to catarrh of the larynx and bronchi—catarrhal croup.

16. **Determination of Abdominal Rigidity.**—The instrument devised by Kilmer apparently is identical with the one invented by H. A. Kelly of Baltimore, and described in the *Johns Hopkins Hospital Bulletin* of September, 1904. Kelly called his instrument a piezometer.

New York Medical Journal.

November 25.

21 *Significance and Management of Chronic Uterine Hemorrhage. G. E. Shoemaker, Philadelphia.
22 Appendicitis in Children. C. C. Barrows, New York.
23 Observations on Heart Disease, Especially Among the Negroes. C. R. Grandy, Norfolk, Va.
24 *Scopolamin-Morphin-Chloroform Anesthesia. M. K. Isham, Cincinnati, Ohio.

25 *Scopolamin as an Anesthetic. H. C. Sharp, Jeffersonville, Ind.
26 Nephritis and Hematuria. H. A. Fowler, Washington, D. C. (To be concluded).
27 Fatal Fat Embolism Following Impacted Fracture of the Cervix Femoris. B. Robinson, Chicago.

21.—See abstract in THE JOURNAL, Nov. 4, 1905, page 1437.

24. **Scopolamin-Morphin Chloroform Anesthesia.**—Isham recommends the injection of scopolamin hydrobromid 1/100 gr. and morphin hydrochlorid 1/6 gr., preliminary to operations requiring a long anesthesia, and also even before short operations when the patients are very nervous, excitable, and either suffering great pain before, or liable to suffer after the operation. The literature is reviewed and additional cases are cited.

25. **Scopolamin as Anesthetic.**—Sharp says that if scopolamin deserves a place among anesthetics it is without doubt in combination with chloroform. The inconstancy of its action renders it impracticable when used alone or with morphin. In fact, continues Sharp, it is doubtful if it would ever produce anesthesia when given alone on account of the extreme restlessness which is present unless morphin is given. While scopolamin may not prove to be the ideal anesthetic, it is without doubt worthy of further investigation, and Sharp believes that with improved technic it will show itself to be an improvement over the present methods. The method of procedure adopted in 3 cases is described in detail.

St. Louis Medical Review.

November 25.

28 Curiosities of Ancient Japanese Medicine. J. Knott, Dublin, Ireland.

New Orleans Medical and Surgical Journal.

November.

29 Gonorrheal Conjunctivitis in the Adult and in the Infant. H. D. Bruns, New Orleans.
30 Fracture of the Lower Extremity of the Radius. C. J. Gremillion, Alexandria.
31 Plea for the More General Use of Electrotherapeutics. A. Granger, New Orleans.
32 Tetanus Following Wounds Inflicted by the Explosion of a Gigantic Firecracker. F. M. Thornhill, Arcadia.
33 Pathology of Yellow Fever. P. L. Pothier.
34 *Treatment of Yellow Fever. L. F. Solomon.

34. **Treatment of Yellow Fever.**—Solomon asserts that no one stricken with yellow fever should die unless there existed, previously, disease of the heart or of the kidney. He outlines his treatment as follows: The first step necessary is the administration of a large saline purgative, preferably sodium sulphate. This thoroughly cleanses the entire intestinal tract. It is not necessary to give calomel or any purgative, because the sodium sulphate, in addition to its flushing power, also acts as a cholagogue. Often when the patient is seized with the attack there is undigested food in the stomach. If this occurs a short time after eating the patient will vomit and empty the stomach of food. If the seizure comes on three or four hours after a meal, and there is still some undigested food in the stomach, there will be nausea. In such cases Solomon states that it is well to give minute doses of calomel for the purpose of quieting the stomach, so that the sodium sulphate will not be rejected. For this purpose the following combination is the best adapted to the purpose: A powder consisting of 1/4 grain of calomel with 1 grain of ingluvin. This is to be repeated every twenty minutes until four are taken, and then followed in half an hour with one-half or one ounce of sodium sulphate dissolved in a glassful of water. Very frequently the intense headache accompanying the onset of the attack will be relieved after the administration of the saline. If not, relief can be obtained by the old-time hot footbath. One hour after the administration of the purgative, and without necessarily waiting for its action, Solomon begins the administration of the following prescription:

℞.	Potassi nitratis........................	ʒi	4
	Liq. ammoniæ acetatis..............	℥iiiss	105
	Syr. aurant. flor........................	ʒiv	16

The adult dose of this mixture is half an ounce, repeated every two hours during the continuance of the fever. The liquor ammoniæ acetatis is administered in conjunction with the potassium salt for its action on the skin, as it causes free diaphoresis, thus favoring elimination. The potassium nitrate in addition to its specific effect as on antitoxin, also acts as a prophylactic diuretic. Within a few hours after beginning the administration of the above mixture the temperature, no matter how high at the outset, will begin to decline and will decline progressively until the end of the third day, when convalescence will begin.

Archives of Pediatrics, New York.

October.

35 *Stenosis of the Pylorus in an Infant. J. C. Griffith, Philadelphia.
36 *Two Operative Cases of Pyloric Stenosis in Infants. T. M. Rotch and M. Ladd, Boston.
37 *Study of Leucocyte Counts in Fifty Cases of Bronchopneumonia, Lobar Pneumonia and Empyema in Children. H. Heiman, New York.
38 Feeding Chart for Infants and Its Educational Advantages. C. Douglas, Detroit.
39 *Infection with Scarlet Fever Through Open Wounds. C. Herrmann, New York.
40 Infant Mortality in Michigan and Detroit, with an Inquiry Concerning a Normal Infant Mortality. H. M. Rich, Detroit.
41 Starvation Diet. E. L. Coolidge, New York.

35. **Stenosis of the Pylorus.**—Griffith reports a case of this kind occurring in an infant on the sixteenth day after birth, the obstruction evidently being chiefly spasmodic, although the obstruction was probably increased by the swelling of the mucous membrane caused by the irritated state of the whole gastrointestinal tract. The child was treated symptomatically and made an uneventful recovery.

36. **Id.**—Rotch and Ladd report 2 cases. One patient was three weeks old. A diagnosis of pyloric stenosis was made from the clinical picture and immediate operation advised. On opening the abdomen the stomach was found dilated to about the size seen in a normal infant of three months, and at the pylorus was situated an oval solid tumor approximately ¾x⅜ inches in diameter. A posterior gastroenterostomy was made with clamps and suture, a jejunal loop being used. The child recovered from the operation, and one year later was in good health and of normal development. The second patient was four weeks old. The pylorus was firm, making a mass about one inch long by three-eighths of an inch in diameter. The obstruction was complete. The lowest anterior portion of the stomach was withdrawn from the abdomen and seized with clamps; the jejunum being too small to clamp, was seized with hemostatic forceps, at a portion farthest from the mesentery, and approximated to the stomach. A running stitch, including the peritoneum and muscles, was carried along the posterior approximated surfaces. An elliptical piece of the stomach was incised and a longitudinal slit was made, cutting the duodenum in front of this stitch; a continuous silk stitch was carried around, uniting these openings, and passing through all the layers. The posterior stitch was then continued around through the serous and muscular coats, in front of the deep layer of stitches and tied at the starting point. The clamp and walling-off gauze were then removed and the area washed with salt solution. The stomach and the jejunum were returned to the abdomen. The omentum was tucked around the area. The incision was then closed with interrupted silkworm stitches through the entire abdominal wall. The patient died on the fourth day after the operation from exhaustion.

37. **Leucocyte Counts in Pneumonias of Children.**—Leucocyte counts were made by Heiman in 19 cases of bronchopneumonia occurring in children from 10 months to 5½ years. The highest leucocyte count taken during the height of the illness was 73,000; the lowest, 12,600. There were 12 recoveries and 7 deaths. In the former all the counts during the first few days of the illness were high, while toward the end of the illness the counts were low except in two cases, one being complicated by mastoiditis and the other by tonsillitis. All the 7 fatal cases gave high counts early in the disease; shortly before death the counts in 4 of these cases were markedly diminished, while they remained high in 3 cases. Heiman also studied 24 cases of lobar pneumonia occurring in children varying in age from 2½ to 9 years. The highest count, while the pneumonia was active, was 55,800; the lowest, excluding a post-typhoid case and a case of pleurisy, was 20,200. There were only 2 fatal cases, and in both a well-marked leucocytosis was present during the height of the disease, while just before death a marked drop in the leucocyte count was noted. In 7 cases of empyema studied there was a marked leucocyto-

sis at the onset. There were 6 recoveries and 1 death; the fatal case gave the highest blood count at the onset of the disease and the highest terminal count. Heiman found that the leucocytosis in the bronchopneumonia is independent of the amount of lung involved, nor does the degree of leucocytosis stand in any relation to the height of the temperature. Though there are some exceptions, the general rule in bronchopneumonia is that failure of the leucocyte count to drop when the pulmonary signs disappear indicates either a complication or a fatal termination of the illness. A constant and considerable leucocytosis may regularly be expected in the lobar pneumonia of children. The degree of leucocytosis is about the same as in bronchopneumonia, but differs in that the white count is higher when the pulmonary involvement is greater. An increasing leucocytosis is the general rule in the lobar pneumonia of children, reaching the maximum just before the crisis. While failure to drop before the crisis may indicate a complication, yet this may be of no special significance. In general, Heiman says, the diagnostic value of the leucocytosis in the pulmonary affections of children is limited. In certain instances, however, the leucocyte count is of great diagnostic aid. When, for example, in lobar pneumonia, resolution and the drop in the leucocytosis has occurred, and there are present signs exciting suspicion that empyema will be a sequel, blood counts should be made frequently at regular intervals. A sharp rise in the count, provided that other causes of leucocytosis can be excluded, is then strong presumptive evidence of a supervening empyema.

39. **Infection in Scarlet Fever.**—Herrmann summarizes his paper as follows: 1. Cases of scarlatinal infection through open wounds have the following characteristics—(a) the period of incubation is short; (b) there is a characteristic change in the appearance of the wound following infection; (c) the neighboring lymph nodes become enlarged; (d) the rash usually (but not necessarily) begins at the point of inoculation; (e) the throat symptoms are mild, there is no exudate or marked involvement of the submaxillary glands; (f) after the rash has reached its height the wound improves rapidly in appearance; (g) desquamation usually (but not necessarily) begins around the wound. 2. Extrabuccal infection with scarlet fever is probably more frequent than is generally supposed. It should be looked for in cases in which (a) the period of incubation is unusually short; (b) those in which the throat symptoms are slight; (c) cases in which the rash makes its first appearance in an unusual location. 3. All children exposed to scarlatinal infection should have open wounds (including vaccination) covered by a protective dressing. 4. The period of incubation in scarlet fever depends on (a) the virulence of the contagious material; (b) the receptivity of the individual; (c) the portal of entry of the infectious material. 5. An individual who is immune to infection in the ordinary way may contract the disease by direct inoculation.

Journal of Cutaneous Diseases, New York.

October.

42 Epithelioma of the Forehead Having Its Origin in a Papillary Nevus. J. F. Schamberg and R. Hirschler, Philadelphia.
43 *Small Multiple Kerion: An Unusual Type of Tricophytosis. J. F. Wallis, Philadelphia.
44 Clinical Aspect and Treatment of Pompholyx. F. J. Leviseur, New York.
45 *Mycosis Fungoides and the X-ray. A. J. Markley, Cincinnati, Ohio.

43. **Tricophytosis.**—Wallis cites 10 cases occurring in girls ranging in age from 8 to 17 years. In each case pediculosis was present, and in nearly every instance an existing cutaneous eruption was attributed originally to the pediculosis, which was later shown to be erroneous. The clinical appearance presented was similar in each case of the series; the primary folliculitis followed by pustulation, then by rupture and scar formation with temporary alopecia, followed by restoration of hair, the cycle being repeated in many instances. Particularly characteristic was the recurrence of the lesions on sites of previous lesions. Another feature especially distinctive was the appearance of the black dots at the margins of the lesions, representing the broken-off stumps of diseased hairs. Microscopic examination of the hairs and cultures taken from them demonstrated the presence of ringworm fungus. The microscopic examination, the growth in cultures and the complete recovery without the destruction of hair follicles, producing permanent baldness, is conspicuous. Wallis concludes, in view of these histories and observations, that these were cases of an unusual type of tricophytosis previously neglected and unrecognized by reason of the associated pediculosis capitis. This series of cases also serves to emphasize the necessity of careful microscopic examination in all scalp conditions.

45. **X-Ray in Mycosis Fungoides.**—Speaking of the treatment of mycosis fungoides, Markley says that in the *x*-ray we possess the most active agent for relieving the tortures and symptoms of this hitherto incurable disease. The history of one case is cited in which the affection involved practically the entire body. The treatment with the *x*-ray was begun at once, using a soft tube at a distance of eight inches, exposing each area five minutes, making about twelve different exposures at each seance and two seances a week at first. In addition, mild and soothing antipruritic lotions were prescribed. At the end of six weeks practically all the patches had disappeared, and the skin was soft and smooth but very deeply pigmented. The general condition of the patient improved rapidly, as did also her appearance.

Journal of Nervous and Mental Diseases, New York.

October.

46 Case of Cerebral Tumor Presenting Confusing Symptoms. F. R. Ray, St. Louis.
47 Mysophobia. J. Punton, Kansas City, Mo.
48 *Acute Anterior Poliomyelitis in a Youth. T. A. Hoch, Worcester, Mass.
49 Anesthesia Associated with Hyperalgesia Sharply Confined to Areola-Nipple Area of Both Breasts, A New and Apparently Constant Stigma in Hysteria. W. W. Graves, St. Louis.

48. **Acute Anterior Poliomyelitis.**—Hoch holds that anterior poliomyelitis is the result of a primary inflammatory disease of the blood vessels of the cord which may be thrombotic or embolic. The destruction of the ganglion cells is secondary and depends in part on the deficient blood supply of the diseased area and in part on pressure and toxins. The pathologic changes occurring in poliomyelitis of children and adults are apparently identical and dependent on similar causes. There is sufficient evidence at hand to consider the disease as a rule of an infectious nature, not depending, however, on a specific micro-organism, but resulting from bacterial infections of various kinds and at times from other poisons. The inflammatory changes are present in the peripheral vessels as well as in the branches of the anterior spinal artery, though these changes are seldom visible until the vessels enter the gray matter. The inadequate collateral circulation within the anterior horns is favorable for sluggish circulation and embolism.

Interstate Medical Journal, St. Louis, Mo.

October.

50 Treatment of the Acidosic and Sugar States from Traumatism. G. F. Butler, Chicago.
51 *Clinical Study of the Diagnosis of Urinary Calculus. B. Lewis, St. Louis.

51. **Diagnosis of Urinary Calculus.**—Speaking of the value of the Roentgen ray in the diagnosis of urinary calculi, Lewis says that the examination is painless, requiring neither local nor general anesthesia. There is no danger from traumatism or infection, and the danger from burn is practically *nil*. Not only does the skiagraph show the exact location of the stone, it also shows the number of stones present. It does away with the necessity of doing an exploratory operation for diagnostic purposes. It differentiates calculous nephritis from other conditions in neighboring organs, and the negative diagnosis is as accurate as the positive, except in very stout patients. The percentage of error in all cases skiagraphed has been less than 3 per cent., and in the majority of cases in which there were erroneous negative diagnoses the calculi were so small that they passed without surgical interference.

American Practitioner and News, Louisville, Ky.

October.

52 Hyperchlorhydria. C. G. Lucas, Louisville.
53 Optical Aphasia. J. J. Moren, Louisville.
54 Exophthalmic Goiter, Basedow's Disease—Grave's Disease. G. B. Jenkins, Louisville.
55 *Je[illegible] P. R. Taylor, Louisville.
56 V[illegible] of Uterus. C. W. Hibbitt, Louisville.

55. Jequerity and Trachoma.—Taylor uses jequerity in trachoma. The infusion, tincture or powder may be used. Taylor prefers the impalpable powder, which he dusts lightly on the everted lid. The eye is then closed for two or three hours with a light bandage. The application is always attended with severe pain, which usually becomes intense from three to five hours after the application. Swelling of the lids often occurs, and often extends to the forehead, cheek and nose, and sometimes the lips are swollen. Escharotics, silver nitrate, sulphate of copper, etc., with rollers, may be used in conjunction with jequerity, but the escharotics will produce greater destruction of normal tissue than the jequerity. Taylor has never lost an eye from the use of jequerity, but has had the swelling assume alarming proportions, and for this reason he never applies the powder until the patient is in an infirmary where the swelling can be best controlled. Out of 73 cases, in not a single instance has the result been disappointing, the patients being discharged in from six weeks to three months. Twenty-two cases were placed in the infirmary the second time from four to eight months after the first treatment and jequerity applied again with complete relief. [The United States Dispensatory states that according to de Wecker the cold infusion, one part to twenty, has been used in chronic granular conjunctivitis, but is much too strong and is liable to set up violent conjunctivitis or keratitis.—Ed.]

Surgery, Gynecology and Obstetrics, Chicago.

October.

57 *Establishment of Cerebral Hernia as a Decompressive Measure for Inaccessible Brain Tumors. H. Cushing, Baltimore.
58 Fibroma of the Gastrohepatic Omentum in the Lesser Peritoneal Cavity. J. B. Murphy, Chicago.
59 Dermoid Cysts of Intestine and Mesentery. W. Jepson, Sioux City, Ia.
60 *Echinococcus Disease of the Heart. C. G. Grulee, Chicago.
61 Diagnosis and Treatment of Some Surgical Diseases of the Urinary Bladder. W. E. Lower, Cleveland.
62 Combined Malignant Tumors of the Female Genitalia. P. Findley, Chicago.

57. Establishment of Cerebral Hernia for Inaccessible Brain Tumors.—Cushing states that inasmuch as the symptoms accompanying brain tumor are due to the pressure effects of a slowly enlarging foreign body, it should be possible to relieve them by allowing the compressed brain to protrude through an artificial opening in the skull. In younger individuals this may occur through separation of the already fused sutures. Cushing has seen three instances of this kind. He says it would be a mechanically ideal treatment for cases of inaccessible tumor if in adult life it were possible to bring about such a dislocation of the sutures in the cranial vault. As this can not be done, recourse must be had to decompressive methods which are less perfect inasmuch as they do not so evenly distribute the compression. In order to control the growth of the cerebral hernia Cushing now makes the bone defect under the temporal muscle. The advantages are many. An oval opening may easily be made, about five or six by eight or ten cm. in its two diameters without freeing the muscular insertion at the temporal ridge. Being in a comparatively thin and relatively non-vascular portion of the skull, the bone is easily rongeured away and the opening on one side alone is usually sufficient for decompressive purposes. Should it prove not to be, a bilateral operation of the same kind may be made. The denuded area of the cortex exposes, for the most part, the convolutions below the fissure of Sylvius, including only the very lowest part of the motor strip, so that, even in cases of extreme unilateral bulging, the greatest harm that would ensue would be from an implication of the center for the tongue, jaw and lower part of the face on the one side. The incision is entirely within the hair margin, and the degree of protrusion that may take place under the protection of the muscle may not be at all obtrusive. Cushing states that the results obtained by this method, which is described in full, have been most gratifying.

60. Echinococcus Disease of the Heart.—Grulee believes that his case was probably one of primary echinococcus disease of the heart with secondary infection of the lung. This is suggested (1) by the diffuse infection of the latter; (2) by the peripheral location of the cysts in the lungs; (3) by the intimate connection of certain of the cysts with pulmonary vessels; (4) by the presence of daughter cysts in a cyst located in the right auricle, and (5) by the fact that an existing pulmonary tuberculosis was all on the right side, while the echinococcus cysts were about equally distributed between the two lungs. No trace of the echinococcus disease was seen in any other organs than the lung and heart.

International Journal of Surgery, New York.

November.

63 *Uterine Curettage; Indications and Contraindications; Technic; Complications. E. E. Montgomery, Philadelphia.
64 Early Indications for Mastoid Operations. W. S. Bryant, New York.
65 Surgical Aspect of Cystoscopy and Ureter Catheterization. G. W. Jones, Keokuk, Iowa.
66 Perinephritic Abscesses in Children. G. R. Curran, Mankato, Minn.
67 Pathology and Operative Treatment of Cholelithiasis. C. G. Cumston, Boston.
68 Dangers Attending Neglect of the Ears During Scarlet Fever, Diphtheria and Measles. A. L. Bennett, Denver, Colo.
69 Uncommon Acute Infections with Surgical Treatment. S. E. Maynard, Burlington, Vt.

63. Uterine Curettage.—Montgomery says that uterine curettement is so pregnant with disastrous possibilities that it should only be essayed by one who is so skilled and trained in aseptic methods that he can protect his patient from danger of infection. The procedure in the most careful hands may be attended with perforation of a softened uterine wall. The occurrence of perforation does not of itself demand an abdominal section for closure of the opening, for in the great majority of such injuries the patients recover without any serious symptoms, but in case of injury of intestine from perforation and the dragging of a loop of intestine through the opening, or in the presence of sepsis, the peritoneal cavity should be opened by abdominal section in the first instance, and the injured intestine treated by suture or excision, as the lesion may demand, while in the second instance the section may be either abdominal or vaginal, as operator elects.

American Journal of Surgery, New York.

October.

70 Plea for the Early Routine Extirpation of all Neoplasms. B. Saunders, Ft. Worth, Texas.
71 Paraffin in Surgery. W. H. Luckett and F. I. Horn, New York.
72 Cystoscope and Ureter Catheter in the Diagnosis and Prognosis of Surgical Diseases of the Kidney. F. Bierhoff, New York.
73 History of Artificial Limbs. J. MacDonald, Jr., New York.
74 Cholecystitis. R. W. Hardon, Chicago.

Journal Mississippi State Medical Association, Vicksburg.

November.

75 Idiosyncrasies of Patients. L. L. Minor, Hollywood.
76 Therapeutic Evolution. H. Christmas, Tchula.
77 Tetanus Following a Gunshot Wound. C. C. Thompson, Columbia.

Southern California Practitioner, Los Angeles.

October.

78 An Historical Address, on College of Medicine of the University of Southern California. W. Lindley, Los Angeles.
79 Medical Education—Yesterday and To-day. G. MacGowan, Los Angeles.
80 International Society of Surgery. L. Willis, Los Angeles.
81 Famous Controversy Concerning the Use of Cantharides Internally. T. L. Cooley, Philadelphia.
82 Diseases of Women and Children. W. A. Edwards, Los Angeles.

Medical Examiner and Practitioner, New York.

October.

83 Hernia in Relation to Insurance. W. McA. Eccles and G. E. Gask, England.
84 Eye and Ear Work. W. Rider, Rochester, N. Y.
85 Medical Examiner and Life Insurance. A. S. McDaniel, San Antonio, Texas.
86 Syphilis Morta[illegible] Copenhagen.
87 Importance of [illegible] of Arterial Changes and of Chronic [illegible] in Relation to Life Insurance. W [illegible]. Fulton, Los Angeles.
88 Insurance Feature of Labor Organization. W. B. Watts, Peoria, Ill.

St. Louis Courier of Medicine.

November.

89 Tumors of the Cerebellum. E. A. Babler, St. Louis.
90 Cancer of the Uterus. G. Gellhorn, St. Louis.

Archives of Otology, New York.

October.

91 Case of Double Mastoiditis with Extensive Involvement of [illegible]s. W. P. Brandegee, New York.
92 [illegible] Hemiplegia as a Complication of the [illegible] W. G. B. Harland, Philadelphia.
93 Operative Treatment of Infective Sigmoid-Sinus Thrombosis. J. D. Richards, New York.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

November 11.

1. Exophthalmic Goiter and Its Treatment. G. R. Murray.
2 *A Conception of Disease. F. Treves.
3 *Treatment of Syphilis by Intramuscular Injection of Mercury. F. J. Lambkin.
4 Tropical Diseases. R. Boyce.
5 Nature of Tick Fever in the Eastern Part of the Congo Free State. J. E. Dutton and J. L. Todd.
6 *Bruhl's Disease (Splenic Anemia) with Special Reference to the Blood Changes Found. P. W. Bassett-Smith.
7 Two Cases of Febrile Tropical Splenomegaly (Kala-Azar) and a Suggestion. P. Manson.
8 Guinea-Worm and Its Hosts. W. M. Graham.
9 Tropical Diseases of the Skin. J. M. H. MacLeod.
10 *Pinta. F. M. Sandwith.
11 Tropical Forms of Pityriasis Versicolor. A. Castellani.
12 *Geographical Distribution and Etiology of Pellagra. L. W. Sambon.
13 Frambœsia Tropica (Yaws). J. C. Graham.
14 Pian (Yaws) in French Indo-China. M. E. Jeanselme.
15 "Dhobie Itch" and Other Tropical Trichophytic Diseases. A. Castellani.
16 *A Tropical Skin Disease. J. Bell.
17 Presence of Spirochetes in Two Cases of Ulcerated Parangi (Yaws). A. Castellani.
18 *[illegible] n Leprosy. G. Pernet.
19 [illegible] J. Cantlie, A. Duncan, L. W. Sam- [illegible] O. Stedman and others.
20 * [illegible] A. Castellani.
21 Beri-Beri. J. T. Clarke, R. T. Hewlett, H. Wright, L. W. Sambon, D. J. Galloway and others.
22 Peculiar Schistosomum Egg. S. R. Christophers and J. W. W. Stephens.
23 *Method of Taking Quinin in the Prophylaxis of Malaria. St. G. Gray.
24 Malarial Fever in British Central Africa. H. Hearsey.
25 *Snake Bite, Treated Successfully by Local Applications of Potassium Permanganate. L. Rogers.
26 Blood Counts in Acute Hepatitis and Amebic Abscess of the Liver. L. Rogers.
27 Seven Cases of Liver Abscess Operated on Between July, 1904, and July, 1905. J. Cantlie.

2. **Conception of Disease.**—Treves attempts to show that there is nothing preternatural in disease, that its phenomena or symptoms are marked by a purpose, and that that purpose is beneficent; that the processes of disease are aimed not at the destruction of life, but at the saving of it, and that its manifestations are the outcome of a natural effort for cure. He says that disease, as popularly realized, is not one of the ills that flesh is heir to, but one of the good gifts, for its motive is benevolent and protective. He says that he can not express this more concisely than by saying that if it were not for disease, in the popular sense, the human race would soon be extinct. A case is cited illustrating the beneficent effect of the inflammatory reaction which occurs following trauma. To the layman this suggests disease, when in reality the trauma probably would encompass the death of the patient if it were not for this inflammatory reaction. The inflammation which is dreaded so much by the laity is a benevolent process with one purpose, that of protecting the body, and one aim, that of cure. Without the protection of inflammation, says Treves, the human race could hardly survive a month. When inflammation does supervene, therefore, it is the surgeon's part to make it as tolerable to the patient as possible, and as soon as it becomes evident that Nature is intending to throw certain matters from the system, the surgeon, acting on that hint, opens an abscess or incises a tense swelling. He who grumbles about his cold, says Treves, is finding fault with a measure of relief to which he owes his life. What the patient may justly grumble at is the undoubted misfortune that he is the subject of bacterial infection, and he may also, with reason, complain of the discomfort incident to being poisoned; but it is hard to blame Nature for successfully defending him against the effects of this casualty. Methods of treatment whether carried out by Nature or by art, are seldom pleasant, but they are not blameworthy. The symptoms of a malady are in reality the expressions of a desperate attempt on the part of the body to fight the exciting cause of that malady. According to this conception Treves refers to appendicitis, malaria, Malta fever, diphtheria, tuberculosis and bubonic plague. Speaking of cancer, Treves speculates as to whether or not extracts or active principles taken from the glands that are active during the period of development in children, such as the thymus, would exert an influence late in life which they seem to be intended to exert when growth is alert in the young. He wonders whether or not the introduction of the active principle of such a gland in a case of cancer would cause a disappearance of the tumor.

3. **Intramuscular Injection of Mercury in Syphilis.**—In all, 3,230 patients with syphilis were treated by Lambkin by the intramuscular method. They represented syphilis in all its various forms—slight primary abrasion, with indurated inguinal and cervical glands, followed by a roseolar rash; true Hunterian chancre, with glandular enlargements, followed by various rashes, papular, psoriatic, pustular, etc.; phagedenic chancre, rapidly destroying tissue, accompanied or followed by rupial and serpiginous ulceration, causing destruction to both soft and hard parts; the later sequelæ of syphilis being represented by paralysis, both local and general, from cerebral and spinal lesions, and also by many cases of tabes of undoubted syphilitic origin. The treatment necessitated some 60,000 intramuscular injections. Of this number about 10,000 consisted of injections of the soluble salts—calomel and the salicylate of mercury. The remainder—that is, 50,000—was made up of injections of metallic mercury. Most of these patients have been lost sight of, but 30 or 40, with whom Lambkin has been in touch for 10 or 15 years, have since married; none of them has had any return of the disease, nor has the offspring borne traces of hereditary taint. No injections were followed by abscess, nor by embolism or severe stomatitis. On the whole, he says, the success which he has obtained from the intramuscular method of treating syphilis is out of all proportion to that which was obtained in days gone by when using older methods. The remainder of the patients (230) were treated in the last four months. They have all done well.

6. **Splenic Anemia.**—Bassett-Smith, in an attempt to establish a relationship between splenic anemia and affections in which the Leishman-Donovan bodies are found, investigated 2 cases. As a result of these observations he concludes that splenic anemia is not due to any parasite, but belongs to that class of cases which come under the term of "tropical splenomegaly" in which the Leishman-Donovan bodies play an important rôle.

10. **Pinta.**—Under this name Sandwith describes a tropical disease caused by a fungus which produces various discolorations on the uncovered parts of the skin and sometimes on the mucous membranes. It is also known as spotted sickness and *le caraté.* Dirt and poverty seem to be predisposing causes. The exciting cause is the *Trichophyton pictor* which produces what may be called an aspergillosis of the skin.

12. **Pellagra.**—Sambon calls attention to many analogies between pellagra and some of the protozoal diseases, and suggests that study of the prevention of pellagra be made in the direction of its being caused by an animal parasite.

16. **Tropical Skin Disease.**—The disease described by Bell occurs in the form of a large circular patch on the side of the foot, about the size of the palm of the hand, red and irritable in the center, with circular edges undermined, and burrowed in places. It is caused by the *Rhizoglyphus parasiticus.* Treatment with 4 per cent. formalin in glycerin produces immediate results.

18. **Involvement of Scalp in Leprosy.**—Pernet cites 2 cases in nodular leprosy in which the scalp was involved. The diagnosis of the infiltrations of the scalp rested on clinical grounds alone, but Pernet is convinced of its correctness. There was no certain basis on which to make a diagnosis of syphilis.

20. **Diarrhea from Flagellates.**—Castellani reports 2 cases of severe diarrhea caused by several varieties of flagellates, such as the trichomonata, cercomonata, *Entamœba undulans* and the *Lamblia intestinalis.* The affection yielded to the injection of a solution of methylene blue, using three pints at a time.

23. **Quinin Prophylaxis of Malaria.**—The method of taking quinin recommended by Gray is based (a) on the fact that the life cycle of the parasites is nearly always forty-eight hours, and (b) that eight or ten days must elapse after infection before they become sufficiently numerous in the blood to cause an attack of fever. Hence it follows, says Gray, that if

a full dose of quinin (10 or 15 gr.) be taken on two successive days, with an interval of eight or nine days before the next two doses are taken, the parasites will always be destroyed before they can cause fever. The method has proved as efficacious as the five-grain-a-day plan, with the advantages that there is one week when the individual is not taking any quinin at all (which is fully appreciated by those who are susceptible to the unpleasant effects of the drug) and less than half the quantity is used.

25.—See ¶35, this issue.

The Lancet, London.

November 11.

28 Chips from a Surgical Workshop. H. Marsh.
29 *Parathyroid Glands in Exophthalmic Goiter. L. Humphry.
30 Case of Xanthoma Diabeticorum. W. J. Procter.
31 Abscess of the Spleen in Enteric Fever. A. W. Harrington.
32 *Extraordinarily Rapid Diminution of Renal Dropsy Under Citrate of Caffein. H. D. Rolleston and J. Attlee.
33 Acute Gastric and Duodenal Ulcer. R. E. Sedgwick.
34 *Ectopic Gestation which Apparently Ruptured Twice. J. C. H. Leicester.
35 Epidemic of Dysenteric Diarrhea. T. Orr.
36 Ready Method of Differentiating Streptococci and Some Results Already Obtained by Its Application. M. H. Gordon.

29. **Parathyroids in Exophthalmic Goiter.**—Humphry urges that in fatal cases of exophthalmic goiter, of myxedema, of tetany in children, and in cases of death following operations on the thyroid gland, the parathyroids should be examined carefully, for the purpose of ascertaining whether or not there is evidence of any pathologic change. In 2 cases of exophthalmic goiter examined, Humphry found that in the parathyroids there were gross changes consisting of extensive infiltration of fat between the columns of gland cells; in fact, the gland tissue was largely replaced by fat. In two other cases the same process was found, but only in the beginning stages. Humphry also examined the parathyroids microscopically in 18 cases of death from various causes—namely, accident, tubercle, pneumonia, Addison's disease, bulbar paralysis, Bright's disease, diabetes, leukemia, cancer, convulsions and old age. The ages of the patients were from 1 year to 71 years; 12 were female and 6 were male. Twelve were between the ages of 1 and 50 years; the parathyroid glands in these appeared normal, with the exception of one. The gland tissue was compact and practically free from the infiltration of fat; the arrangement of the cells showed instances of the different types of gland tissue. The one exception was from a girl, aged 14 years, who died from burns. The parathyroid in her case showed some excess of fat and she was found to have an enlarged thymus weighing 18 grams. The thyroid appeared to be normal, but was not examined microscopically. Of 6 patients whose ages were from 50 to 72 years, 4 showed well-marked fatty infiltration of the parathyroids; the one most affected was from a case of diabetic coma in a man aged 60. Humphry suggests that the parathyroid gland may have an important function to perform, one that is independent of the thyroid function, and that disturbance of this function may stand in some relationship to the various diseases investigated, especially exophthalmic goiter.

32. **Caffein in Renal Dropsy.**—After all other methods to relieve the edema had failed, Rolleston and Attlee administered citrate of caffein, 7½ grains three times a day, for twenty-five days, when the dose was gradually diminished until it was discontinued entirely about eight days later. The effect of the caffein was manifested almost at once, the urine increasing in amount with a proportionate lessening and final disappearance of the edema.

34. **Twice Ruptured Tubal Pregnancy.**—Leicester cites this case to illustrate the difficulty of diagnosing a ruptured tubal pregnancy when the symptoms are vague and indefinite, pointing toward abdominal disease rather than to the actual condition.

Indian Medical Gazette, Calcutta.

October.

37 Anti-Malarial Measures—Ancient and Modern. H. Hamilton.
38 *Snake-Bite Treated by Incision and Application of Permanganate of Potash. L. Rogers.
39 Report on the Epidemic of Plague in Hughli-Chinsura Municipality, January to May, 1905 D. G. Crawford.
40 Varieties of Bubo Met in Bubonic Plague and the Rational Treatment of Each Kind. E. F. G. Tucker.
41 Treatment of Cataract in Children. H. Smith.
42 Significance of the Pyriform and Globular Bodies Present in the Circulation and Organs in Various Forms of Disease. A. Lingard.

38. **Permanganate of Potash for Snakebite.**—Rogers treated 12 cases of snakebite with potassium permanganate, according to the method proposed by Lauder Brunton. In 4 cases the treatment was commenced at once; in 3 cases a full half-hour elapsed before it was commenced, but in two of these a ligature had been applied shortly after the infliction of the bite. In 3 other cases three-quarters of an hour, one hour and four hours respectively elapsed before treatment was begun, but it still proved successful in saving the life of the patient. Only 2 of the 12 patients died. In the majority of cases the snake inflicting the wound was a cobra. The 2 patients who died did not come for treatment until nine and eleven hours respectively after having been bitten.

Annales des Mal. des. Org. Gen.-Urin., Paris.

Last indexed XLIV, page 139.

43 (XXIII, No. 5.) *Etude clinique sur la pathogénie et la séméiotique de l'albuminurie. E. Lancereaux.
44 (No. 6.) La séparation endo-vésicale des urines. Sa valeur au point de vue du diagnostic de l'état anatomique et fonctionnel du rein. T. Tuffier and A. Mauté.
45 *Palpation Through the Rectum.—Le toucher rectal. Moyen de diagnostic et de traitement dans l'urétrite blennorrhagique aigue. P. Lebreton.
46 Des uréthrites aigues non-gonococciques. T. Vannod (Berne).
47 Electrolysis in Treatment of Stricture of Urethra.—De l'électrolyse dans le traitement des rétrécissements de l'urètre. Alcayde (Valencia).
48 (No. 7.) Les affections tuberculeuses des reins (of kidneys). L. Bernard.
49 Dispositif nouveau pour redresser les images cystoscopiques (to straighten cystoscope picture). P. Denis (Brussels).
50 (No. 8.) Fistules rénales consécutives à la nephropexie. F. Gardner (New York).
51 Quelques mots sur l'onanisme. C. Féré.
52 La rachistovainisation dans les maladies des voies urinaires. P. Héresco and L. Strominger.
53 Indications réciproques du cathétérisme et de l'intervention chirurgicale dans l'hypertrophie prostatique. L. Charrasse.
54 (No. 9.) Sur le traitement des prostatiques en retention incomplète chronique aseptique avec dilatation de la vessie Nicolich (Trieste). See page 588 of volume XLIV.
55 (No. 10.) *L'anastomose intertesticulaire après la section d'un canal déférent. G. Gatti.
56 Sur 2 cas de calculs du rein (kidney). Oraison.
57 Traitement de l'arthrite aigue blennorrhagique du genou par les injections intra-articulaires de sublimé (in knee). L. Galliard.
58 (No. 11.) Diverticule vésical d'origine probablement traumatique sans obstacle à l'émission de l'urine. Serrallach.
59 (No. 12.) Un nouveau électro-cystoscope. W. K. Otis (New York).

43. **Albuminuria.**—Lancereau distinguishes three types of albuminuria, according to the epithelial, vascular or nervous origin. The prognosis varies with each type. It is very serious when the secreting epithelium of the kidney is destroyed, and favorable when the elements are still capable of recuperation. The prognosis is grave also in albuminuria of vascular origin, due to kidney lesions, with a constant and progressive tendency. Albuminuria of nervous origin scarcely modifies the general health; it is not accompanied by attacks of uremia, except under the rarest circumstances, and a complete cure may be obtained. Treatment should vary for these types. In the epithelial form it should be directed to restoring the epithelium to normal and to getting rid of the obstructing débris. After failure of other measures he has sometimes had the urine increase from a half pint to a quart or two quarts or more in 36 hours under the influence of from 6 to 10 drops of tincture of cantharides taken during the day in a mucilaginous julep. Raw milk also favors the diuresis in these conditions. In albuminuria of vascular origin, the aim is to act on the vessels, and the best remedy he has found to date for this purpose is from 1 to 3 gm. of sodium or potassium iodid in 24 hours. Milk is not so important here as in epithelial albuminuria, and need not be ordered except in case of an uremic attack. In albuminuria of nervous origin, the antispasmodic remedies are indicated, with hydrotherapy, an alcohol sponge on rising, and tepid, alternating hot and cold or even cold douches have proved beneficial in his experience. The diet is of importance, because there is generally dyspepsia in young and glycosuria in older subjects. He forbids wine and acids to the younger patients and puts the older ones on a diabetic diet, substituting potatoes for bread. His experience has been very gratifying with treatment along these lines, but in case of an attack of uremia he resorts at once to drastic diuretics and purgatives with the utmost energy, allowing no food but

milk sipped slowly every two hours, with tea and coffee if craved. In the nervous type of albuminuria, the amount of urine approximates normal, the tint is reddish or slightly yellowish. It never has the pale, skim-milk tint of the vascular type. The density ranges from 1015 to 1020, and it is not more abundant during the day than at night. The albumin precipitates in small flakes and may range from 0.5 to 2 or 3 gm. or more in the 24 hours. The albuminuria may be continuous or intermittent, orthostatic or cyclic. The general health is influenced but little. The microscope shows no casts nor epithelial cells in the urine, or, at most, only a few leucocytes and rare crystals of uric acid or calcium oxalate. This form of albuminuria is frequently associated with glycosuria, but the albuminuria does not continue a progressive course. It may cease abruptly or persist indefinitely. Generally curable and mild, this type of albuminuria still exposes, under certain conditions, to uremic accidents, as after getting chilled or exhausted or during the decline of some infectious disease. Energetic, appropriate treatment generally restores conditions to normal, but individuals presenting nervous albuminuria are, as a rule, less resistant to diseases than normal persons and succumb more readily, especially if they are at the same time glycosuric. Consequently their hygiene should always be supervised.

45. **Palpation Through Rectum in Urethritis.**—Lebreton presents numerous arguments to demonstrate that rectal palpation is one of the best, if not the best, means to detect a latent posterior urethritis. It is also an important therapeutic measure in this case, as massage and "expression" of the prostate, through the rectal walls, aid materially in the cure of lesions in this region. If the pressure of the finger on the prostate does not elicit pain, then massage should not be done, as the gland is yet sound. Massage is also contraindicated when the pressure is painful only along the median line, showing that the prostatic urethra is the only part involved. Massage under these conditions would only serve to spread inflammation to hitherto sound parts. On the other hand, massage is indicated whenever the lateral lobes are sensitive to pressure, regardless of the degree of painfulness. Massage should always be preceded by filling the bladder so that the liquid flowing out afterward will sweep out the débris resulting from the manipulations. In case of an actual abscess, massage is contraindicated until after the abscess has been evacuated, as it might induce perforation into the rectum or urethra. Evacuation through a transverse perineal incision is preferable, followed by massage.

55. **Intertesticular Anastomosis.**—Gatti says that degenerative processes follow when one testicle is grafted on the other, unless the manipulations have been extremely gentle. He has found it possible to make an anastomosis between the testicles after severing one vas deferens, thus insuring an outlet for its secretions. When this was done with the minimum of traumatism, the parts healed without degenerative processes and normal function was retained. There is only a very slight proliferation of connective tissue when the operation is done without resection of gland tissue. Anastomosis between the testicles should be advised in case of operative or traumatic lesions of the vas deferens of a sound testicle, but not after epididymectomy for tuberculous epididymitis. Gatti has had excellent results from this intertesticular anastomosis on dogs, and thinks that the conditions will prove much more favorable in man. He incises the tunica vaginalis and the tunica albuginea in the form of an X and then turns back the four triangular flaps made by this incision. The denuded surface of the two glands thus exposed by the turning back of the flaps is lightly freshened with a sharp knife, and they are held in contact with a stitch at each corner. The article is illustrated. (Mauclaire's experience in engrafting an atrophic testicle on its sound mate was mentioned in THE JOURNAL, 1903, page 62 of volume xl.)

Bulletin de l'Acad. de Médecine, Paris.

60 (Year LXIX, Nos. 33-34.) *Flies and Cholera.—Mouches et choléra. A. Chantemesse and F. Borel.

60. **Flies and Cholera.**—Chantemesse comments on the fact that more than a million and a half of victims have succumbed to cholera in the last four years. The disease spreads by transportation to long distances, by propagation from city to city and by dissemination from house to house, from individual to individual. Transportation of the contagion to long distances in merchandise is of such rare occurrence, he says, if it occurs at all, that prophylactic measures in this line would be worse than the danger to be feared. If the contagion could be transported in the goods and baggage of persons coming from infected countries, then the progress of cholera would have been entirely different. It would have followed the routes of navigation, and prophylactic disinfection, by the usual technic to date, would not have prevented this. The drinking water taken on board in an infected port would certainly infect the persons on the vessel during a long voyage if danger from this source were to be apprehended, but this is not the case. During the last four years the 4,000 ships returning from the Orient through the Suez Canal have brought 200,000 men in their crews and 500,000 passengers, and yet only 13 of the vessels have had cholera on board and only 29 persons were affected. Some of the persons were in the stage of incubation when they embarked, but in others the disease appeared from fifteen to thirty days after embarkation. These individual breakings out of the disease are extremely dangerous, and they are the only features to be feared in regard to the transportation of cholera to a distance. In one instance a ship from Java had a case thus break out twenty-nine days after leaving. If it had started from Bombay, the passengers would have been landed in France by the twentieth day, and the disease might thus have developed after the individual had been nine days on French soil. The maritime sanitary police are helpless in face of occurrences of this nature. The pathogenic microbes may lurk in the human organism without manifesting their presence. Gotschlich was sent, this summer, to Tor to examine the pilgrims returning from Mecca. Cholera did not make its appearance in Mecca this year, but he was ordered to examine the intestines of every pilgrim succumbing at Tor to any disease. He found cholera germs in several of the Russian and Turkish pilgrims from regions where cholera had been prevalent when they started on their pilgrimage. The identity of the cholera germs was confirmed by Gaffky, Köhler, Kolle and Meinicke, to whom they were sent for corroborative testimony. During the Mecca pilgrimage of 1905, no cases were observed which resembled cholera either clinically or in its pathologic anatomy, and yet several persons carried in their intestines for more than five months live cholera germs, capable of reproduction, and neither the bearers nor their neighbors developed cholera. The vibrios must have been very scanty or very much attenuated or a favorable opportunity for passing them to susceptible individuals must have been lacking. Recent data suggest that the limit of latent microbism of this kind is six or seven weeks at most. For this latent microbism to be still active after thirty days it seems to be necessary for the bearers of the bacilli to find some environment where filth or other conditions cause the revival of the attenuated microbes. Marseilles is only seventeen days from Bombay, and yet the town has never been infected by cholera arriving directly from India. Propagation of cholera from town to town is limited by the fact that three or four days of desiccation kill off the germs in baggage, clothing, etc. For this reason infected clothing arriving at Paris from India is not dangerous, while it would be extremely dangerous if it came from a town only a day's journey away. Flies can readily transmit the germs; their mouths, feet and intestines were found to harbor the vibrios in some tests which Chantemesse reports. Cholera is most fatal in the countries without sewerage, and it is there that flies most abound. The fly can not transport cholera to a distance nor propagate it from town to town, bnt it is a most powerful means of dissemination, and the dying down of epidemics in winter is due to the lesser number of flies. He concludes with the remark that in time of a cholera epidemic it might be well to placard the walls with the saying of an American writer: "It should be more of a disgrace for a housekeeper to have flies in her house than bedbugs in her beds."

Revue de Gynécologie, Paris.

Last indexed page 1367.

61 (IX, No. 5.) *Hystérectomie abdominale avec évidement pelvien et recherche des ganglions pour cancer de l'uterus. A. Pollosson (Lyons).

62 *Le sarcome de l'utérus. Symptomes. Diagnostic. Traitement. G. Piquand.

63 *Traitement de l'infection puerpérale grave par la laparotomie ou la colpotomie, sans hystérectomie. L. Sourdille.
64 De l'occlusion au niveau de l'angle colique gauche (left angle of colon). A. Nores (Cordova, Argentina).

61. Abdominal Hysterectomy for Cancer.—Pollosson relates the particulars of 32 cases of uterine cancer in which he operated by the abdominal route. He had previously preferred the vaginal route, but the ultimate results were unsatisfactory and he adopted Wertheim's technic. He removed the uterus and the tissues surrounding it in a single large mass. The ureters have to be detached from the mass first, and, when possible, transverse clamps should be applied to the vagina before cutting it. This prevents infection of the peritoneum. He gives the minute technical details of his operations and reviews the results. Several of his patients succumbed to intercurrent affections and a few did not survive the operation. Examination of the glands and tissues in these cases showed that all the diseased tissue had been unmistakably removed. In 23 cases in which he explored with his fingers, through the peritoneum, the glands of the region, he found them suspicious in 8 and removed them. In 4 of these the glands proved to be cancerous. In conclusion, the details of each of the 32 cases are given, and also a life-size photograph of the mass as removed from two patients.

62. Sarcoma of the Uterus.—Piquand discusses the symptomatology and diagnosis of sarcomata of the parenchyma, of the mucosa of the fundus and of the cervix. He has found 171 cases of the first group on record in which an operation was attempted. The operative mortality was 9.3 per cent. and recurrence is known in 29 cases. The ultimate outcome is not known in most of the others. In 36 patients with sarcoma of the mucosa seen a few months or years later, there had been recurrence in only 12 and 24 were in good health from one to eleven years after the operation. In 53 cases of sarcoma of the parenchyma, 28 of the patients were in good health from nine months to nine years after the operation. There are thus 52 permanent cures on record. In 19 cases of diffuse sarcoma of the mucosa, the uterus was removed in 16 and 3 of the patients are without recurrence from 17 to 26 months later, while 8 have not been followed and 4 soon succumbed. In 48 cases of sarcoma of the cervix, 3 patients died during the operation and recurrence was observed in 33. Only 12 are reported as cured, and the majority of these have not been traced since. The incomplete operations were always followed by recurrence.

63. Laparotomy as Treatment of Puerperal Infection.—Sourtille has treated 4 patients with severe diffuse puerperal peritonitis by mere laparotomy or posterior colpotomy, and succeeded in saving 3 of them. Removal of the uterus is a serious operation, and its record to date in puerperal infection is the reverse of encouraging. The outcome proves it to be either a useless mutilation or else that the prognosis was inevitably bad. A mere laparotomy or colpotomy enables the exact condition of the parts to be ascertained and has direct healing value in itself. As it entails no shock, he urges that it should be done early in case of severe infection, without waiting for the woman to be touched by the wing of death, after failure of curetting or drainage of the uterus. Done systematically, in time, it would enable the condition of the uterus and adnexa to be inspected, and, if a threatening lesion were found, to have it removed while the patient's resisting powers were still able to cope with a major operation. He reports a number of cases in which laparotomy or colpotomy unmistakably saved the patients in diffuse puerperal peritonitis or postabortion infection, and urges the general adoption of laparotomy with drainage as the routine procedure in threatening puerperal infection. Several surgeons have published reports of successful cases of this kind, but no one before, he remarks, has advocated this as the systematic technic for treating serious postpartum or postabortion infection. The entrance of air attenuates the virulence of the toxins and germs, especially the anaërobic, which, as a rule, are largely involved in puerperal infection. Dialysis is promoted and the drainage carries away the dialyzed morbid products.

Berliner klinische Wochenschrift.

65 (XLII, No. 38.) *Habitus phthisicus und tuberkulöse Dyspepsie. B. Stiller.
66 *Zum Verständnis der Wirkung der Röntgen-strahlen bei der Leukämie. J. Arneth.
67 Zur Frage der sogenannten atypischen myeloiden Leukämie. K. Helly.
68 *Erfahrungen auf dem Gebiete der Therapie mit Röntgenstrahlen. M. Cohn.
69 *Ueber prophylaktische Maassnahmen gegen die Diphtherie. P. Aaser.
70 *Spectrum Test for Blood.—Ueber den Wert des Hämochromogenspektrums. A. de Dominicis.
71 Zur Wirkung des Chlorbaryums und Barutins. H. Brat.
72 Immunisierungsversuch gegen Strychnin. H. Meier.
73 Zur physikalischen Therapie der Neurasthenie. A. Laqueur.

65. Habitus Phthisicus and Tuberculous Dyspepsia.—Stiller has found that the floating tenth rib, which he long ago proclaimed to be a sign of the asthenic habitus, is also a sign of a consumptive tendency. This kind of body supplies a predisposition to tuberculosis as well as to nervous dyspepsia. The individual whose build stamps him as a candidate for tuberculosis is also a candidate for nervous dyspepsia. This explains why tuberculosis is complicated with dyspepsia in from 70 to 90 per cent. of all cases. He has found that the degree of movability and the extent of the defect in the tenth rib is an index of the extent of the dyspepsia and nervousness. In extreme degrees, the ninth rib may be movable also and the eleventh and twelfth ribs may move much more freely than common. He has observed a number of cases in which apparently healthy individuals sank into a condition of severe dyspepsia, neurasthenia and emaciation in consequence of some trivial stomach or intestinal trouble—in one instance a tapeworm. They lost rapidly from forty to sixty pounds or more, and years were required to regain their former weight. Signs of gastroptosis or nephroptosis developed in most of them. Some constitutional disease or latent cancer seemed probable, but the rib stigma showed that the individual was hereditarily burdened with a tendency to dyspepsia and nutritional disturbances. Circumstances had been so favorable hitherto that he had kept at the highest limit until some accident upset him. In such cases there must be not only a lack of stability in the digestive, but also in the assimilating organs, probably due to participation of the intestinal sympathetic system in the asthenia of the central nervous system. This serious tendency is revealed solely and alone, he claims, by the rib stigma in an otherwise robust physical development.

66. Roentgen Treatment and Leukemia.—Arneth's experience and study of leukemia under Roentgen treatment have convinced him that this treatment reduces the consumption of the neutrophiles, eosinophiles and mast cells of the circulating blood. The extent of the reduction depends on the duration and intensity of the exposures, which may lead finally to far-reaching, although never quite complete, restoration to normal of the blood. The morphologic behavior of the blood cells shows that there can be no question of destruction of the circulating leucocytes or injury of the blood-forming organs under the influence of the rays. Roentgen exposures have an entirely different action on the sound and on the leukemic human organisms, as he explains in detail. He defines leukemia as the expression of an immense destruction of leucocytes and consequent constant demand for production of more, with some special stimulus for the hyperplastic development of the blood-forming organs. This stimulus may be some special property of the still hypothetical virus affecting these organs.

68. Roentgen Treatment.—Cohn summarizes his conclusions in the statement that in lymphatic and myelogenic leukemia the exposures may induce subjective well-being, and all the appreciable objective signs of the disease may also subside, but experience has shown that the symptoms return, on complete suspension of the treatment, after a longer or shorter interval. It is necessary, therefore, after an apparent cure has been realized from prolonged Roentgen treatment, to continue intermittent treatment, with one or two sittings each week. Still better prospects are offered in Roentgen treatment of pseudoleukemia and of sarcoma originating in the lymphatic apparatus. Cancroids, when not too extensive, are positively cured in a comparatively brief time. In superficial cancers of the face, Roentgen treatment deserves the preference over surgical on account of the absence of scarring. Prophylactic exposures after a cure has been obtained should be unconditionally advised. More radical treatment than Roentgen exposures are required for carcinomata infiltrating into the deeper tissues or covered with sound skin. He explains the lack of influence of the rays on the enlarged spleen in many cases as due to the chronic hardening of the capsule. In exposing the spleen he uses excessively hard tubes, at a distance of from 10 to 20 cm., the sittings from ten to fifteen minutes long, once a day. To prevent dermatitis he orders the abdomen to be washed with a soft sponge and tepid water three times a day, and after each washing alcohol is rubbed into the skin to toughen it. At night, lanolin or other salve is rubbed into the abdomen. With these precautions he has never had any trouble from dermatitis, even when the total duration of the exposures was twelve hours without a pause. There is almost always slight transient redness of the skin after from eight to fourteen days, accompanied by itching, especially at night.

69. **Prophylaxis of Diphtheria.**—Aaser is convinced that preventive injections of serum are reliable for prophylaxis. He relates a number of instances in which incipient epidemics were aborted by preventive injections of antitoxin, even although exposed individuals were found to harbor diphtheria bacilli in their throats. As the immunity conferred does not last more than two or three weeks, he repeats the preventive injection after from two to four weeks if there is still opportunity for contagion.

70. **Hemochromogen Test for Blood.**—De Dominicis reaffirms the extreme simplicity and reliability of his test for detection of blood by means of the spectrum of hemochromogen. The loose scrap of dried blood is placed in a droplet of pyridin on an object glass and ground fine with a glass rod. A drop of ammonium sulphate is then added, and a cover glass placed over it. A chromatic reaction can then be observed, while hemochromogen crystals form, and the spectrum for hemochromogen becomes apparent. If the scrap of blood is on a dark background it must be made mechanically permeable to the light. A few mm. of a single thread of a blood-stained garment are sufficient to give the hemochromogen spectrum immediately and distinctly. This test gives positive results when others fail, and the spectrum is more sensitive than that of oxyhemoglobin. He commends this as by far the best general routine test for detection of blood with very little material.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed page 1767.

74 (LXXXV, Nos. 1-2, Fiedler *Festschrift.*) Ueber die vierte (Filatow-Dukes) Krankheit. O. Unruh.
75 *Behavior of Circulatory Apparatus in Acute Infectious Diseases.—Zur Kenntnis des Zirkulationsapparates, etc. Schmaltz.
76 *Ueber Myokarditis und Gefässerkrankungen im Kindesalter, insbes. nach akuten Infektions-Krankheiten (in children). *F. Förster.*
77 *Untersuchungen über rheumatische Myokarditis. P. Geipel.
78 Zur Pathologie und Aetiologie des Malum Dupuytren. G. Buch.
79 Otitic Brain Abscess in Left Temporal Lobe with a Peculiar Form of Speech Disturbance.—Otitischer Hirnabscess im linken Schläfenlappen, etc. M. Mann.
80 *Intraperitoneale Infusion und Ernährung (infusion and feeding). A. Schmidt and H. Meyer (Dresden).
81 Physikalisch-chemische Untersuchungen an Ergüssen in Körperhöhlen (effusions). H. Meyer. Id. W. His.
82 Ueber Rachitis tarda. G. Schmorl.
83 *Zur Frage der chirurgische Eingriffe bei lienaler Leukämie. H. Lindner.
84 *Puerperal Affections of the Lungs from Thrombosis and Embolism.—Ueber Lungenerkrankungen im Wochenbette, beruhend auf Thrombose und Embolie. Leopold
85 Zu[illegible] venösen Col- l[illegible]
86 Ue[illegible] e und über [illegible] im Allge- [illegible] inflammation of skin). J. Werther.

75. **Behavior of Circulatory Apparatus in Acute Infectious Diseases.**—Schmaltz declares that the greater his experience and the more he is able to follow the consequences of infectious diseases into later life, the more he is convinced that every kind of infection is liable to injure the organs of the circulation, the injury ranging from the slightest, most transient effects to severe, fatal lesions. The injurious influence of the underfeeding and the long lack of exercise must also be taken into account. He reviews the findings and course of the cardiovascular affection in various acute infectious diseases. In 4 cases of diphtheria and 5 of scarlet fever, and in the majority of 52 other diphtheria and 19 scarlet-fever patients, the cardiovascular apparatus still showed disturbances when the patients were dismissed, and examination later confirmed the morbid findings. The trouble was generally mitral insufficiency, sometimes combined with subjective disturbances. He does not know of any research on the later course of the heart disturbances in cases of typhoid, measles and pneumonia. They frequently persist until the patients are dismissed, at least.

76. **Vascular Affections and Myocarditis in Children.**—In this first part of his monograph Förster discusses acute primary myocarditis, myocarditis after burns and in cutaneous affections and diphtheria. Fiedler described in 1897 an acute interstitial myocarditis as a primary and isolated affection of the myocardium. He had observed 5 cases of it and 4 have since been reported by others, all but one terminating in death. The patients were adults. Förster here describes the first case known in a child. Myocarditis after severe burns has been observed. It is liable to develop tardily in children. In 2 cases in his experience the children died on the twenty-eighth day after they apparently were well on the road to recovery. He has also witnessed a case of fatal myocarditis complicating eczema of the face and scalp. In diphtheria he notes that the frequency of myocarditic complications increases with the age of the patients, his figures ranging from 14.3 per cent. of the children under 2, to 88.8 per cent. of the children between 11 and 15. The insidiousness of the heart disturbances in diphtheria imposes the greatest caution on the physician, at least until after the fourth week, when he detects even the slightest intimation of a heart or vascular disturbance in the course of diphtheria. Repeated examination of the pulse, especially during the first two weeks, is indispensable in connection with examination of the heart. In his experience the first symptom was in the pulse in 10 and dilatation of the heart in 2—all in the first week. In the second week the pulse was the first symptom in 6, and dilatation in 6, with heart sounds in 5. He noted dilatation of the heart in 29 out of his 40 cases of diphtheritic myocarditis. In none of these patients to date is the heart absolutely normal again. When the myocarditis sets in early it generally proves more severe.

77. **Rheumatic Myocarditis.**—Geipel describes the findings in a number of hearts from cases of articular rheumatism. The findings are peculiar and pronounced, but they are not specific for rheumatism, as he has found the same in cases of contracted kidney, etc.

80. **Intraperitoneal Infusion and Feeding.**—Schmidt and Meyer report extensive research on animals to determine the tolerance of the peritoneum for injected solutions. Weak solutions of sugar and dextrin were promptly absorbed and did not cause material irritation. Oil was tolerated still better, and application of these findings in the clinic confirmed the fact that a small amount of oil injected into the peritoneum is tolerated without reaction and is absorbed. In 2 patients with advanced cancer the oil seemed to be absorbed and oxidized while the general condition improved. Intra-abdominal infusion of oil is far preferable to subcutaneous administration. It does not cause pain, and much larger quantities can be injected. The oil is rapidly absorbed and does not irritate the peritoneum in the least. When injected with a drug it seems to diminish the irritation from the latter. Infusion of solutions of albumin or sugar has not proved so practicable in several respects, at least in the concentration of 5 per cent. used in the tests reported. In regard to preliminary injections to enhance the resisting power of the peritoneum before an operation they describe their experiences with 5 to 10 c.c. of a 0.9 per cent. salt solution in from 250 to 500 c.c. of horse serum. In other cases the horse serum was used alone or the saline alone. The combination of the two, however, induced the highest leucocytosis. The infusion was made from seventeen to nineteen hours before the operation. The injection was almost entirely painless, and is a perfectly harmless procedure. It attains the desired aim, namely, the inducing of a slight irritation of the peritoneum with general leucocytosis. After experiments on animals several experiences were made with oxygen introduced into the peritoneum of patients with double pneumonia or tuberculous peritonitis or cirrhosis of the liver. The procedure proved feasible and harmless. The only danger might be that if the abdomen were very much inflated with the gas, some might find its way into the right ventricle. In the cases of tuberculous peritonitis the absorption of the

ascites seemed to have been promoted by the introduction of the oxygen. In one case in particular repeated tapping had been unable to arrest the formation of ascites, but after the introduction of the oxygen it did not reaccumulate and the patient was dismissed in comparative health. In this case, after withdrawal of 1,750 c.c. of fluid, 1,700 c.c. of oxygen had been introduced. In the course of the next week or so the abdomen increased somewhat in size, but not enough to require tapping, and before the month was out there was no further trace of free fluid in the abdominal cavity. The patient was a woman of 30. Further experiments with injection of sodium bicarbonate in diabetes and of cocain in severe gastric crises gave negative results, and signs of irritation deterred them from further experiments in this line. In any event, only weak and isotonic solutions should be injected. It is possible, they think, that fine results might be obtained by direct application of the drug when it is desired to exert a direct local influence on the peritoneum or intestines. In conclusion Schmidt and Meyer suggest the possibility of thus arresting hemorrhage with adrenalin, or of influencing tuberculous ascites by an emulsion of iodoform and glycerin, and also the practicability of reducing irritation by infusing oil or of influencing peristalsis by appropriate medication introduced into the abdominal cavity.

83. **Surgical Treatment of Splenic Leukemia.**—Lindner refers to a case in which the general health improved remarkably after removal of the spleen, although the entire syndrome of splenic leukemia was not banished by the operation. Four cases are on record in which the patients were restored to health by splenectomy, including Carsten's case. On the other hand, reports have been published of 28 cases in which no benefit was derived from the operation.

84. **Puerperal Embolic Lung Affections.**—Leopold relates a case in which a woman convalescing from childbirth had three severe embolic attacks with consecutive infarct in the lungs. The case is another example of the premonitory value of the climbing pulse (*Kletterpuls*), and it further shows to what grave danger the apparently healthiest parturient woman is constantly exposed for days. It also emphasizes the necessity for scrupulous avoidance of every unnecessary demand on the lung, heart and abdominal muscles. The probable source of the embolism was a varicose vein on the leg. The patient finally recovered.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

87 (XXXI, No. 40, October 5.) *Aetiologie und Behandlung der Appendicitis. Lucas-Championniére.
88 *Prognose und Behandlung der Uterus-Myoma. E. Knauer. (Concluded).
89 Zur osteoplastischen Resektion der äusseren Augenhöhlen wand (outer wall of orbit). W. Czermak. (Concluded.)
90 *Diätetik des vorgeschrittenen Kindesalters (of children from 2 to 15). Monti.
91 Zur bakteriologischen Choleradiagnose. E. Friedberger and A. Luerssen. Id. A. Böhme.
92 Zur Kenntnis des Virus des Molluscum contagiosum des Menschen. M. Juliusberg.
93 Therapeutische Fortschritte auf dem Gebiete der Gynäkologie (progress). J. Klein.
94 Artificial Ems Salts for Eye Lotion.—Augenbäder mit Lösungen von künstlichen Emser Salz. Hesse.
95 Official Report on Relations Between Human and Bovine Tuberculosis. (See news columns, page 1339.)
96 Patents of Interest to Physicians.—Erfindungen aus dem Gebiete der Medizin, der öffentlichen Gesundheitspflege und der Krankenpflege. G. Justi.

87. **Appendicitis.**—Lucas-Championnière ascribes great importance to preceding influenza and to an undue proportion of meat in the diet as factors in the etiology of appendicitis. He operates as soon as the diagnosis is certain, unless from eight to ten days have already elapsed.

88. **Uterine Myoma.**—Knauer does not approve of electricity or caustics in treatment of myomata of the uterus. He advises expectant treatment when women are near the menopause unless forced by hemorrhage, pain or other symptoms of disturbance to adopt other methods. He operates through the vagina and warns against going too far in the effort to retain the uterus and thus compromising the later results.

90. **Dietetics for Children.**—Monti expatiates on the necessity for adapting the diet to the stage of development of the digestive organs and to the needs of the growing organism, giving detailed directions for children from 2 to 15 years old.

Books Received

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Issued under the Authority of the Government of India by the Sanitary Commissioner of the Government of India, Simla. Calcutta: *Office of the* Superintendent of Government Printing, India, 1905.

No. 13. Oriental or Delhi Sore. By Captain S. P. James, M.B., I.M.S. Price, 10 annas, or 1s.

No. 14. A Parasite Found in the White Corpuscles of the Blood of Dogs. By Captain S. P. James, M.B., I. M. S. Price, *annas 10 or 1s.*

No. 15. A Parasite Found in Persons Suffering from Enlargement of the Spleen in India (Third Report). By Lieut. S. R. Christophers, M.B., I.M.S. Price, annas 10, or 1s.

No. 16. The Specificity of Antivenomous Sera, with Special Reference to a Serum Prepared with the Venom of Daboia Russellii. By Captain G. Lamb, M.D., I.M.S. Price, annas 6, or 7d.

A Memoir of Dr. James Jackson, with Sketches of his Father, Hon. Jonathan Jackson, and his brothers Robert, Henry, Charles and Patrick Tracy Jackson; and Some Account of their Ancestry. By J. J. Putnam, M.D. Cloth. Pp. 456. Price, $2.50 net. New York: Houghton Mifflin & Co., 1905.

Surgical Diagnosis: A Manual for Students and Practitioners. By A. A. Berg, M.D. Illustrated with 215 engravings and 21 plates. Cloth. Pp. 543. Price, $3.25 net. Philadelphia: Lea Brothers & Co. 1905.

Radiotherapy in Skin Disease. By J. Belot, with a Preface by L. Brocq. Translated by W. D. Butcher, M.R.C.S. Authorized translation from the Second French Edition, with thirteen plates and twenty-eight Illustrations. Cloth. Pp. 463. New York: Rebman Company, 1905.

Physical Diagnosis, Including Diseases of the Thoracic and Abdominal Organs. A Manual for Students and Physicians. By E. Le Fevre, M.D. Second Edition. Revised and Enlarged. Cloth. Pp. 479. Price, $2.25 net. Philadelphia: Lea Brothers & Co., 1905.

Mutterpflicht und Kindesrecht. By Dr. Med. Eugen Neter. *Mit einem Vorwort von Kinderarzt, Dr. H. Neumann, Berlin.* Paper. Pp. 91. Munchen: Verlag der Aerztlichen Rundschau (Otto Gmelin).

University of Missouri Studies. Topography of the Thorax and Abdomen. By P. Potter. Science Series, Vol. 1, No. 1. Paper. Pp. 142. Price $1.75 net. Published by the University of Missouri, 1905.

Army List and Directory. Officers of the Army of the United States. November 20, 1905. The Military Secretary's Office. Paper. Pp. 91. Washington: Government Printing Office, 1905.

New York State Library. Yearbook of Legislation, 1904. Edited by R. H. Whitten, Sociology Librarian. Cloth. Price, $1.00. Albany; New York State Education Department, 1905.

Around the World via India. A Medical Tour. By N. Senn, Ph.D., LL.D. Cloth. Pp. 347. Chicago: American Medical Association Press, 1905.

Diagnose und Therapie des Ekzems. Dr. S. Jessner, Konigsberg i. Pr. Paper. Pp. 96. Würzburg: A. Stubers Verlag (C. Kabitzsch), 1905. Pries, mk. 1.50.

NEW PATENTS.

Recent Patents of Interest to Physicians:

802728. Apparatus for lifting and transporting invalids. Wm. Amos, Providence, R. I.
802596. Formaldehyde-generator. Wm. E. Ramsay, Perth Amboy, N. J.
802601. Sterilizer for surgical dressings, instruments, etc. Samuel G. Scanlan, Madison, Wis.
802527. Device for preventing sea-sickness. Wilhelm Schmidt, Wilhelmshohe near Cassell, Germany.
802835. Double salt of ferric chlorid and cotarnin hydrochlorate and making same. Arnold Voswinkel, Berlin, Germany.
802969. Cooling-case for soda-fountains. Wm. W. Butler, Decatur, Ill.
802980. Making oxalic acid, etc. Frederick A. Feldkamp, Newark, N. J.
803476. Truss. Wm. Fielding, Lewiston, Me.
803282. Microcoustic or device to assist the hearing. John R. Gault, Montooth, Pa.
803286. Clavicle dressing. James W. Hingston, Chicago.
803170. Atomizer or nebulizer. Olin C. Knight, Kalamazoo, Mich.
803498. Cranial saw. Harvey C. Masland, Philadelphia.
803352. Thermometer for water-bags. Rachel Meyer, New York.
803193. Appliance for surgical beds. Emily H. Richards, Oak Park, Ill.
803145. Machine for removing and putting on the tops of capsules. Benjamin T. Winchester, Windsor Hills, Md.
804086. Womb supporter. Martin J. Barchfeld and F. C. Hunt, Girard, Ohio.
803892. Auriphone. Robert W. Goers, Syracuse, N. Y.
803619 Invalid-bed. Bella McMahan, Six Points, Pa.
803922. Artificial limb. Harry J. Morris, Wichita, Kans.
803708. Massaging Implement. Alvah U. Patchen, Syracuse, N. Y.
803639. Thermometer. Charles J. Tagliabue. Brooklyn.
803640. Syringe. Charles J. Tagliabue, Brooklyn.
803956. Surgical apparatus for internal examination. J. C. Zubli, Amersfoort, Netherlands.
804207. Artificial leg. John Bunderle, Jackson, Minn.
804584. Syringe. Charles J. Davol, Providence, R. I.
804784. Surgical Table. Edward L. and E. B. von Eschen, Kirksville, Mo.
804229. Forceps and the like. Thomas C. Hutchinson, Decorah, Iowa.
804407. Syringe. Alcinous B. Jamison, New York.
804484. Therapeutic apparatus. Carl O. Lindstrom, Chicago.
804272. Respirator. Wilhelm Schwarz, Pforzheim, Germany.
804776. Thermomedical device. Dexter M. Small, Providence, R. I.
804680. Scalp-massage brush. Rowland M. Smith, Chicago.
804682. Making protocatechuic aldehyde. Rudolf J. M. Sommer, Vienna, Austria, Hungary.
804687. Pasteurizing apparatus. Frank Tyson, Canton, Ohio.

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Address

CO-ORDINATED SPECIALISM IN PUBLIC HEALTH WORK.*

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MINNEAPOLIS.

DIFFICULTIES.

In America two causes are operative in rendering it difficult to protect the health of the public. One is the lack of real knowledge on the part of the public in regard to the scientific truths which underlie the conservation of its chief asset, viz., its health; and the other is a tendency in the preservation of individual freedom to lose sight of our obligation to respect the rights and privileges of others who may be less assertive.

It is probable that each of these factors may operate as the cause of the other and it is difficult to discuss one without encountering complications dependent on the other. Endorsement of public health protective measures in a general way by an individual has usually the mental reservation that they be so applied as to safeguard him against his neighbor but not in such a manner as to impose hardship on him for his neighbor's benefit. The spread of accurate knowledge and the universal application of the golden rule are both to be advocated as necessary to secure permanency in the support by the public of the provision and enforcement of logical regulations which at present is only to be had under the stress of great fear, and is then but temporary and spasmodic. Individuals and families are willing to submit to nearly any course of treatment or to any restrictions imposed when the fear of sickness or death suddenly confronts them, but when the strain is removed they forget the lesson learned and the promises made. The public reacts in the same way and is willing to submit to discipline only when the necessity for it is plainly demonstrated by epidemics with high mortality or in the face of striking disaster. If such times could be utilized for the formulation and passage of logical regulations and the public could be induced to support the continuous administration of such measures and to take the same interest in the protection of its health as of its wealth or honor, progress would be rapid. It becomes necessary to convince the public, therefore, first, that health is its most important possession; secondly, that it can be conserved and improved just as accurately and certainly as any other asset; and, thirdly, that preventive medicine is immensely cheaper and more efficient than curative procedures.

In countries like those represented in our association where the right of the individual is the primary consideration, there is a particular prejudice against the assumption of special or expert knowledge on the part of individuals or groups of people, and yet it is necessary in the government of people by themselves that there should be specialization so that responsibility may be wisely placed and the greatest good to the greatest number insured. There is nothing, however, in which individual right to opinion is so rigorously asserted as in the matter of health; and through the medium of the press and in daily converse all kinds of peculiar and often pernicious views are voiced. The semi-mysterious seems to be attractive rather than the logical and those who are really interested in private welfare and public health are often tempted to long for a temporary monarchical form of government or military dictatorship if thereby the suppression of baneful theories of the cause, prevention and cure of disease and the advertisement of doubtful and dishonst remedies could be secured. This is, of course, impractical, but in lieu of it, the appointment of competent boards nominated by the leading national or international scientific, medical, public health and engineering societies so as to permit the preparation and censorship of technical material in popular form for distribution through the Associated Press and government bulletins, would result in the gradual education of the public. The substitution of real scientific truths, given in simple language so that children might readily understand, for the so-called "physiology and hygiene" now provided by some localities as text-books, would prepare our coming citizens to understand and protect themselves. Were such a comprehensive system feasible in the countries represented by our association, the question of the education of the public and of securing enthusiastic support for public health legislation and its administration would probably be solved.

DEGREE OF RESPONSIBILITY OF PHYSICIANS.

The total burden of responsibility should not be placed, as it frequently is, on physicians Their eager support of measures intended to safeguard humanity is usually misunderstood and misjudged because their honesty of purpose is questioned when they endorse methods which, if logically carried out, will diminish their financial resources. As a physician not engaged in active practice, I wish to pay tribute to the practicing members of the profession by asserting, without fear of successful contradiction, that they have no superiors in unselfish devotion to their fellowman, often in the face of a total lack of appreciation, and too frequently in the face of suspicion or active opposition.

The practicing members of the medical profession who stand highest in their particular lines are the most enthusiastic, honest and earnest supporters of public health protective measures, and urge most strongly the necessity of special qualifications and the broadest and most thorough training for those who are to be made responsible for their intelligent administration. They are the first to realize that their own training and experience, being largely in the direction of curing rather than preventing disease, must be supplemented by all the other allied sciences and that public health work has become a profession or a specialty which involves the necessity of a knowledge not to be obtained until in very recent years in the medical colleges, universities, engineering and technical schools.

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* Presidential Address, American Public Health Association, Boston, Sept. 26, 1905.

A glance at the program for this meeting will give some idea of the complicated mechanism and careful training in varied lines which are required in the care of the health of the public; and their necessity should be recognized and demanded by the public. This most important matter should not be left, as it often is, in the hands of those whose knowledge and ability is along political rather than sanitary lines. Sanitarians have been far too little appreciated, not only by the general public but also by the medical profession. The general public is inclined to regard a public health office of any kind as a "political plum." Years of experience, each one of which adds to the knowledge and value of any official, are apt to count for naught. The medical profession, on the other hand, too often regards a physician who is willing to undertake work of a particularly arduous character which essentially differs from and precludes him from general practice and yields little financial return, as lacking in ambition, independence or foresight. Such posts have been, therefore, unattractive, since the remuneration is usually small and the loss of medical practice and prestige is likely to be as certain as the tenure of office is uncertain. Reform in this direction is growing. Universities are preparing to co-operate with boards of health in providing special training. The time is now ripe when the public should demand that those entrusted with the care of its health should have special training and higher remuneration.

It is absolutely necessary to place such work on a sure and firm foundation. The value of experience already gleaned should be recognized and every community should try to retain the services of officials who have shown their ability and faithfulness in the various branches of public health, as well as other public work. The city in which we meet has set an excellent example in this respect and is to be congratulated on her appreciation of the initial ability, integrity and wide experience of the chairman of her board of health, who for over thirty years has devoted his life to the welfare of Boston; has been a leader in our association almost since its organization, and was once its president. We of Minnesota have piratically annexed the director of the Boston City Board of Health laboratory and are still unrepentant, being selfish enough to want the best.

SPECIALISTS NEEDED.

The older method of securing experience by experimentation on the public should be superseded by requiring preliminary special training at universities and by boards of health, so that, while retaining for the good of the public the service of those already trained and competent, they may be reinforced and, when necessary, succeeded by those who have received such special training. Undoubtedly, the public should demand the possession of special qualifications both in the executive and in the other technical branches of public health service. Elective and appointive positions should be filled by those who have received special training and, as evidence of their special qualifications, have degrees or diplomas granted by competent authorities, as in Great Britain, where a diploma of public health is demanded of all medical health officers. Bacteriologists, chemists, engineers and other technical men should have special training in public health work before the responsibilities of public service are entrusted to them. A knowledge of the clinical manifestations of disease is imperative, but often much more than clinical experience and ability is essential. While in scarlet fever, smallpox and certain of the infectious diseases it is nearly always possible to diagnosticate the condition present and by so doing to protect others from infection, there are a number of diseases in which clinical observation alone proves utterly insufficient.

As illustrating this, diphtheria may be mentioned. It is the presence of diphtheria bacillus which constitutes the danger of infection. Preventive measures should be and are demanded when this bacillus is present. Bacteriologic methods have very greatly shortened the necessary isolation period. In diphtheria it is impossible to base the necessity for protective measures on the local condition of the throat or the general or constitutional manifestations of disease. For this work, and many other branches also, competent bacteriologic advice must be at hand. It is not the typical cases which cause serious trouble to the sanitarian, but rather those in which the diagnosis is unsuspected or obscure. In many conditions the laboratory is able to afford most valuable aid. A laboratory method of diagnosing smallpox has been evolved by Howard in the further pursuance of the classical researches of Councilman and his associates. The dread of cholera has to some extent disappeared by a better understanding of its cause and means of transmission. Here again bacteriologic methods are used almost entirely for diagnosis and the only preventive therapeutic interference which has been utilized is that of Haffkine, whereby cultures of bacteria are used for inoculation in order to induce immunity. The wonderful revolution in protective methods against yellow fever is well known to all. The work of Reed, who was vice-president of our association at the time of his death, can be credited already with the saving of thousands of lives, and the commercial benefits which have accrued to the American continent can scarcely be estimated since a prolonged period of quarantine and universal disinfection have been shown to be unnecessary and illogical. It is unfortunate that the wonderful efficiency and co-ordination of the methods employed by the United States Army in Cuba could not have been fully utilized in the present epidemic, but we Americans do not like discipline and as a result of a division of the responsibility and lack of far-reaching, supreme authority in the beginning, the ignorance and fear of the masses have lost our country many lives.

The startling results claimed for Japan in protecting her soldiers against disease in the field do not appear to be so much dependent on superiority in scientific methods as on a clock-like discipline and patient, far-sighted attention to detail. In the Japanese army the authorities seem to respect sanitary knowledge and to be willing and anxious to place responsibility on the sanitarians and medical officers, who are left supreme in their own domain. A similar policy, with careful selection and adequate recognition of the sanitary officials, would be found to be well worthy of emulation in Panama.

In malaria, practically the same measures are to be employed as in yellow fever, both of them involving the necessity for biologic knowledge, as it is very important to know and recognize the different members of the mosquito family. The activities of flies, bugs, vermin and other such agencies in the spread of disease have to be recognized and familiarity with general biologic principles is demanded on the part of the health official. The chemist must be utilized in the study of foods, water and sewage as they relate to the health of the public. Engineers now are specially trained in public health lines so that municipal and sanitary engineering are taught in certain of the technical schools and universities. The city in which we meet furnishes many communities with experts along such lines through the Massachusetts Institue of Technology. The Massachusetts State Board of Health by its scientific investigations in water supply, sewage disposal, food adulteration and kindred problems has won the respect of sanitarians throughout the world, not only by the methods evolved, but by results achieved. With the certain knowledge now available through our sanitary clinicians, statisticians, chemists, engineers, bacteriologists, biologists and other specialists, it would appear to be a relatively simple matter to conserve public health, but there are certain other factors which must be recognized and dealt with.

COMPLEX MODERN LIFE DEMANDS CO-ORDINATED PROTECTIVE EFFORT.

Apart from the difficulty of establishing satisfactory disciplinary measures in our free countries, it must be remembered that life in this age is extremely complex. Our cities have grown enormously. Facilities for rapid transit now make it possible for individuals to reside many miles from their work. Groups form and re-form many times a day, and it is impossible to know the exact previous environment of each individual who helps to constitute a particular group. Rapid transit means increased responsibilities for sanitarians. The grouping together of individuals in schools, colleges, religious institutions, offices and shops calls for a study of public health along social economic lines. Specialism in commercial and professional life is so great that we have diseases incident to occupation. It is very apparent that the difficulties of protecting the public against itself are increasing every day, and that both highly specialized and very broad general knowledge must be available in those who are united in this work. No one individual can acquire, so as to be able to utilize, all of the specialized knowledge in these various lines. It becomes necessary, therefore, to have all such branches available and co-ordinated. A short consideration of some features of necessary co-ordination may not be amiss. While we are often described as a practical people, impatient to utilize results rather than to acquire the original scientific data by tedious research, the description is true only in part. Anesthesia by ether, the determination of the causative factor in yellow fever and many other both scientifically and universally important discoveries have had their origin here. The brilliant work of Americans in the study, prevention and cure of tuberculosis is universally recognized, and Theobald Smith, Ravenel, Pearson, de Schweinitz, Biggs, Trudeau, Bowditch, Knopf, Flick and others are household names the world over. The ideal co-ordination of effort in the fight against this dread disease has been secured, and the National Association for the Study and Prevention of Tuberculosis will doubtless be the means of stimulating local effort in the utilization of every honorable means to educate and protect humanity. This kind of work shows the power and ability of our people, and it may be said that no countries excel those of America in the application of scientific methods to the protection of public health. The vastness of the countries and the possession of potential rather than actual wealth in the newer communities render the work more difficult, but as a compensation there is a corresponding freedom from the chains imposed by precedent and tradition. We are in the process of manufacturing these latter.

RELATION OF EXECUTIVE TO LABORATORY WORK.

Laboratories are utilized almost universally in America in public health work. There are, however, many misconceptions in regard to the function of the laboratory in public health service. Primarily, the work undertaken by such laboratories should be in direct relation to public service, and not a means of gratifying private curiosity or of affording information which is of value to individuals alone. Laboratory work should be extended wherever possible, so as to afford guidance to executive action. This does not at all mean a limitation to pure routine. Research is necessary, in fact demanded, along many lines. It should have for its object the study of conditions in order to obtain information which may serve as the immediate or future basis of executive protective activity and legal restriction. Universities, special institutions for research and private and hospital laboratories are available for the study of diagnostic and curative methods applicable to the individual rather than to the public, but it is in the public health laboratory that research along public health lines must be done.

In municipal health work, the laboratory is in close contact with the problems to be studied, but very frequently it is necessary for the laboratory men to leave the laboratory and to accompany executives, inspectors or others, so as to see and know the actual existing conditions and guide their work accordingly. In state or federal work, it is often imperative for the laboratory worker to visit the locality under investigation. It is impossible, in most instances, to render valuable service or to give intelligent advice based on shipped specimens and meager data. Nor is it economical to spend days, weeks or months in working at problems which have been entirely obscured or at best rendered vastly more difficult by lack of foresight or of specific knowledge on the part of those for whom the investigations are to be made. For years our experts have endeavored to show the impossibility of giving specific information in relation to the sanitary quality of waters or the location of contaminating foci, and to afford advice involving structural and other details by the examination of samples collected and shipped to the laboratory. The delay between collection and analysis has been an element of error, and even more so in sewage work.

Certainly in bacteriologic work it would seem strictly proper to begin the analysis of water and sewage in the field. In the examination of blood for *Plasmodium malariæ,* of sputum for *B. tuberculosis,* of blood for the presence or absence of the Widal reaction in typhoid fever, and of cultures taken from the throats and noses of suspected diphtheria cases and in a number of other lines including rabies, glanders, anthrax and actinomycosis, it is usually possible for the laboratory to examine and report on shipped specimens where intelligence has been exercised in their collection and transmission. At best, however, it is not ideal, because the value of data is frequently not appreciated by the person who desires the examination.

Furthermore, to be of value to public health administrative bodies, each piece of work should be capable of utilization as a guide to future work. Every individual who utilizes a public health laboratory for securing information should feel under obligation to make the necessary return for such gratuitous expert report, by supplying all data in regard to past and present conditions and subsequent history of events so that the whole may be recorded in such form as to be of permanent value to the particular locality and to sanitarians in general. No work on the laboratory or executive side should assume such routine form that it ceases to possess interest. The research spirit should so dominate the work that even in matters of so-called routine observations and records are made in such manner as to afford the possibility of arriving at new and conclusive views. Boards of health and officials in whom this research spirit is lacking are sources of danger to their communities.

When so much emphasis is laid on the use of scientific methods in medicine and public health there is danger that in the recognition of the value of such laboratory investigation and minute technical observation the absolute necessity for sound judgment and ability to appreciate relative values of the points brought out by such precise methods may be underestimated. It is too often assumed that in the various chemical, bacteriologic, biologic or mechanical tests the correct information and conclusions are rapidly and almost mysteriously attained. Many of the methods are most laborious and time-consuming. The microscope, the culture tube and the chemist's balance and retort are extremely delicate implements, which bring to light many new and sometimes complicating factors. Really, at times they almost seem to increase the difficulties and to lead away from practical results. Here is where the necessity for sound judgment, so erroneously designated "common sense," becomes most important, and where a knowledge of all local conditions must be considered and correlated with all other data. The only remedy for apparent discrepancy is more data and further study.

SCOPE OF PUBLIC HEALTH WORK AND METHODS.

In regard to the problems undertaken by sanitarians and laboratories, as a general principle the epicurean doctrine must prevail. Questions which involve the welfare of many should receive consideration before those which concern the interests of individuals. Problems for whose solution there seems to be a reasonable hope must take precedence of those in which there appears to be little likelihood of arriving at definite results.

Public health authorities established for and by the whole people should be independent of the coercion of individuals. Because a board of health is a public institution is no reason why any individual should demand investigation of the problems which interest him alone. Those who are actively engaged in public health service should be selected primarily on account of their fitness and because the people have confidence in them. To them should be entrusted not only the carrying out of the necessary work, but the formulation of that work. Sanitary laws and ordinances either should be formulated by health authorities or submitted to them for approval or modification and bodies whose duty it is to enact legislation should be guided by those who are entrusted with the protection of the public health. It is illogical to place individuals in positions of trust and responsibility and to hedge them in by suspicion or by perverse or inefficient legislative measures so that the successful carrying out of the work is impeded or prevented. Responsibility without adequate authority is farcical.

It is apparent, as we have seen, that nearly every phase of human knowledge must be utilized in successful effort to protect the health of the public. Usually on one individual the administration of the work falls. This being so, it is absolutely essential that he keep in touch with the other phases of the work, and at least be versed in their principles. The composite judgment of all the available experts should be secured and included in any final opinion which the executive voices and, so far as it can be done, expert work should serve as the basis of all executive action. Importance of close contact of laboratory workers with field problems can not be overestimated. The correctness of this conclusion has been proved by an experience of several years in the State Board of Health work in Minnesota. To facilitate such work, branches of the State Board of Health laboratory are being established throughout the state. In the saving of time, the accuracy of information received and the applicability of results of laboratory investigation to the work in hand, much is gained by such means. Where branch laboratories do not exist, one or more laboratory men accompany the executive officer or his representative into the field or at times the laboratory man is entrusted with executive power. A number of state institutions and hospital laboratories throughout the state are frequently used as temporary headquarters. It has been suggested, however, that for many phases of the work a traveling laboratory which can readily be provided in a railway coach would be most advantageous, as it would permit certain laboratory work to be finished much more quickly. In any event, it could be begun on the spot and completed in the main laboratory. In general, for problems including epidemics of the various bacterial or parasitic diseases, water, sewage, milk and food investigations and other matters, necessitating the presence of the laboratory worker in the field, such as a traveling railway laboratory, sidetracked for the purpose, would be most useful in the saving of time and effort and in serving as an object lesson. The expense would be very much less than that incurred by the provision of innumerable laboratories on a permanent basis in rural districts or small towns and villages. The chief benefit secured would be in the co-ordination of effort by the authorities and the instruction of the public in its own welfare. Such a plan was utilized most advantageously by Dr. Hamilton Wright in the Federated Malay States.

Railways find it most advantageous to provide themselves and the engineering departments of certain universities with laboratory cars containing instruments of precision and facilities for observation in their important problems, such as conservation of power, the adjustment of grades and the relation of speed to expense. Commercial enterprises and government and state departments have realized the utility of traveling laboratories in agricultural education whereby demonstrations can be given to farmers and others as to the most scientific and practical methods of increasing and conserving the crop yield.

AIM OF THE ASSOCIATION.

Each one of us has a different set of problems to solve, and it would be idle to attempt to go into all the various phases of work represented in our association. Our annual meetings permit each one of us to profit by the experience of others engaged in similar or parallel work. It has been the aim of the association from its very beginning to stimulate research and to standardize methods of technical and executive procedure. With the growth of the countries represented and the gradual organization of new territory our association has kept in touch. The increased tendency to utilize methods of science and accuracy in medicine and commerce has been shared in or perhaps led by the association in the establishment of its laboratory section. Considerable trepidation was experienced by many members for fear that in the division of the program interest might be divided. The real need which existed has been fully demonstrated by the history of the section which has shown the value to be obtained from the meeting together of technical men in the evolution and standardization of methods and interpretation of results. On the executive officer falls the necessity and responsibility of taking definite action, to suppress, eliminate or prevent conditions which are inimical to public health. The technical worker is apt to become interested rather in his methods or scientific results than in their practical application. The effect of the establishment of the section has been to interest each different worker in the problems and affairs of his colleagues in the same and other lines, and the blend has been beneficial. In this day of specialism it is necessary at all times to keep the inter-relation of the various phases of the work most clearly defined, and there is room for question as to whether the present arrangement of the program for our annual meetings is best suited to our needs. Undoubtedly we need one technical section and probably should have more. It may appear desirable perhaps to consider a greater subdivision into sections, such as executive, statistical, bacteriologic, chemical and engineering sections. Each section should include in its sectional business and program only those matters which involve technical points. The bacteriologist is interested in matters which pertain to the making of culture media, the preparation or technic of some particular stain and similar procedures, but every member of the association is interested to know the general principles which underlie these matters, and particularly interested in the results to be obtained by their application. A chemist is not necessarily interested in structural materials or the methods employed in estimating engineering problems, but chemists and all other members of the association are interested in the results achieved by engineers and the general plans and principles of the work which they undertake. The minutiæ of chemical technic are profitable only to the chemist. Executive details and legislative matters are of chief interest to those who are entrusted with the administration of such affairs in their own communities and the other technical workers are interested only in a general way, or insofar as these matters affect or complicate their work. It would be necessary, however, to scrutinize program material very carefully in order to determine whether it is of sufficiently technical character to be of interest only to a particular group of technical men, or if it is of general interest. If it is not particularly technical and deals with matters of general interest and importance, it should certainly be considered in general session. Most of the work undoubtedly should be done in joint session so that all members may participate and the meetings may continue to be the means of harmonizing rather than separating the various active factors in public health work. The ideal arrangement would consist in the grouping of allied subjects. To illustrate: A joint session on the subject of typhoid fever would be valuable. The bacteriologists might present papers dealing with such general matters as methods of isolating *B. typhosus* from various sources and the germicidal effects for typhoid bacillus of certain substances with which they may have experimented; or of their experience as to the value of the so-called Widal reaction; or of the persistence and localization of *B. typhosus* in the human body. All of those matters should be presented in the most practical way without emphasis on minute technical details. Both chemists and bacteriologists might be able to afford data concerning food, milk and such other materials in relation to the spread of typhoid fever. Engineers should participate in such a program, giving the results of their inspection and investigation of water supplies and sewage disposal. Executive officers and statisticians should give their experiences, including the use of legislative machinery, the administration of regulations and the compilation of statistics. The relation of the disease to railway travel and military life should not be overlooked. Such a method of approaching problems would enable each worker to arrive at, modify or change the point of view of his fellows, and a far greater value would be received by all than if all of each technical worker's experience and results were to be given before his particular section simply because his communication contained technicalities. These technicalities should be eliminated from the general paper and presented in the briefest possible way and usually in a demonstration form before the particular technical section to which they belong.

The American Public Health Association is the only association of any magnitude which is devoted entirely to the interests of public health. Its traditions are that it should be big enough and strong enough to meet emergencies and keep pace with or rather to anticipate advance. Every one in this age and generation is familiar with the trust method as applied to commerce. Its opponents are loud in their denunciation of the method—not because it does not succeed, but because it succeeds too well. The success of the trusts is due to the fact that every method and every agency which can be advantageously used is used. There is a complete correlation of all potent factors. Such should be the attitude of our association, and success will attend our efforts if made along these lines for the benefit of the people whom we serve.

ORGANIZATION AND PROSPECTS OF THE ASSOCIATION.

The work of the American Medical Association in the organizing of physicians throughout the United States is one of the greatest advances of the present time. This work is very largely entrusted to one of the oldest and most valued members of our association, and it is impossible to estimate the real good which is being accomplished by Dr. McCormack in persuading members of the medical fraternity to drop all points of difference and unite on those matters which are common to all and for the good of all humanity. This work of organization does not contemplate for a moment interference with other more highly specialized or technical medical associations. It will be of the greatest possible benefit to our association, which has a field peculiarly its own. It should be the policy, however of the American Public Health Association to anticipate demands for special work and special information along lines which are closely applicable to public health, and care must be taken that in our land of societies without number we do not lose because we have failed to provide a place and a stimulus for workers in all lines which directly affect our work.

There are great difficulties to be met and overcome. Not least is the instability of local organizations, and our association should at all times endorse the great value of experience and the importance of continuing competent workers in their positions. Effort should be made not only to enlist the active co-operation of every good public health worker in America, but to retain him in active membership in our association. It is axiomatic that what is difficult to obtain is appreciated. On this principle it may be wise to consider the desirability of a more careful selection and rigid censorship of the membership of our association. Another point worthy of consideration is the effect on our meetings of selecting some central location as a permanent meeting place, provided that the educational effect both on the association and the locality visited be not lost. Succeeding meetings now may be held many hundreds or thousands of miles apart, rendering it at times very difficult for members to attend. The time of meeting also should be considered in relation to universities because of the necessity which all recognize of securing the co-operation of educational institutions in the general teaching of hygiene to all, and in the specific training which is essential for those who are afterward to engage in public health service.

The dignity and permanency of the American Public Health Association may be taken for granted, and it must continue to feel its responsibilities so that it may become advisory to the governments of those countries which constitute the association. But the question arises as to whether its present constitution which provides for an annual meeting lasting five days, with a complete interregnum of 360 days in each year, is best calculated to meet emergencies and bear responsibilities, and whether it tends to permanency of structure and administration. There are many matters which arise between meetings which demand careful consideration and immediate action.

The publication of the transactions of the association is a matter which has engaged our attention for years and is still unsettled, partly through lack of funds and partly on account of our peculiarity of organization. The question of income so that research may be fostered and possibly studentships or fellowships established for the study of specific problems, is an important matter which we should consider. I would suggest that at this meeting the association take under advisement some of the matters touched on and that the possibility of certain changes in organization be considered. To secure greater permanency of administration and for the purpose of carrying on at all times the necessary business and of increasing available funds, it might be well perhaps to consider the establishment of a board of trustees similar to that of the American Medical Association. The administration of the affairs of the association could be safely left to such a board, which should represent every phase of public health activity, and whose members should be long enough in office to ensure the carrying out of permanent policies.

Public health work in the main consists in making people do what they do not wish to do for their own good, and is certainly not a popular profession. As one of the younger members I can not but speak with enthusiasm of the work and achievements of the older members of our association, which, through their efforts, has been such an active factor in public health work for over three decades. Their motto has been to retain what is good, but to be on the watch for something better. It must be remembered that this is a work in which many of our members have been engaged for the greater part of their lives with relatively little financial encouragement and at times no appreciation of what they are doing by those for whom they are doing it. Their reward should be the contemplation of and participation in the working of a huge machine of which the constituent parts, revolving though they may be in intricate and complicated cycles, yet with no loss of energy in friction, operate for the benefit and conservation of mankind.

Original Articles

THE TABETIC FOOT AS A FACTOR IN THE ATAXIA OF THE LOWER EXTREMITIES IN TABES DORSALIS.*

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This paper, the joint production of a neurologist and an orthopedist, attempts to bring facts toward a solution of a problem hitherto considered strictly neurologic in character, with the purpose of supplying in each case knowledge which is lacking in the other. The advantages of such a combination are obvious, and in the case of this paper, as in other instances, the different points of view have tended to solve a problem which up to this time has not been considered in all of its different phases.

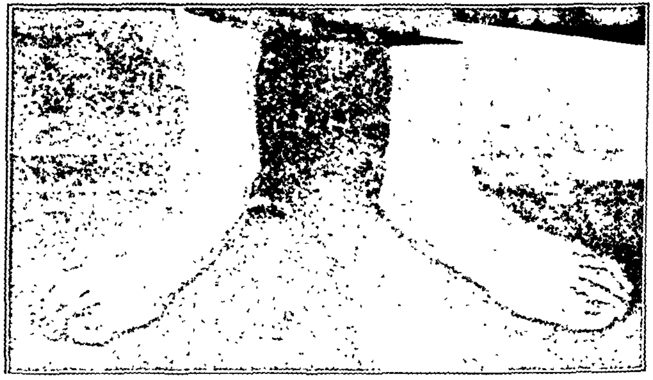

Fig. 1.—Pronation to a high degree. See Tracing I, Fig. 2, showing preservation of the arch.

THE PROBLEM.

The problem set before us was, in brief, the consideration of the factors concerned in the ataxia of the lower extremities in tabes dorsalis, apart from the usual elements which have been considered the essential ones. The theories of tabetic ataxia have been considered chiefly with the view of those who believed that the ataxia was a result of disturbances in sensibility, using the term in its broadest sense, or of those who held that the origin of the ataxia was central. Our own efforts were not concerned with this side of the question at all, but strictly with the tabetic gait and factors in the causation of this gait, apart from the disturbances in the sensory nervous system. In the walking and in the standing of the tabetic there are easily two sets of factors involved, one has to do with disturbances leading to the ataxia and the other with the instruments by which the peculiar gait is accomplished, that is, the mechanical factors involved in walking and standing. This paper, then, is concerned chiefly with the mechanics of the tabetic gait as influenced or not by the mechanics of the foot, ankle and, to a lesser extent, by those of the knee joint.

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As a consequence of the observations afterward to be recorded, an effort was made to correct the obvious errors in the mechanics of the foot and ankle used in walking by devising an improved shoe. This has developed gradually as the correct mechanical principles involved in a tabetic gait became more and more impressed on us. Thus the paper may be considered from two points of view, first, a study of the mechanics of the foot and ankle in tabetic gaits and postures, and, second, an attempt to improve the faulty mechanism so that a tabetic will be given a fairly normal implement with which to learn to walk. It might be noted here that from the therapeutic point of view the limits of this paper must be obvious, for the reason that results in therapy depend for their proof on a large number of observations made by a large number of different individuals.

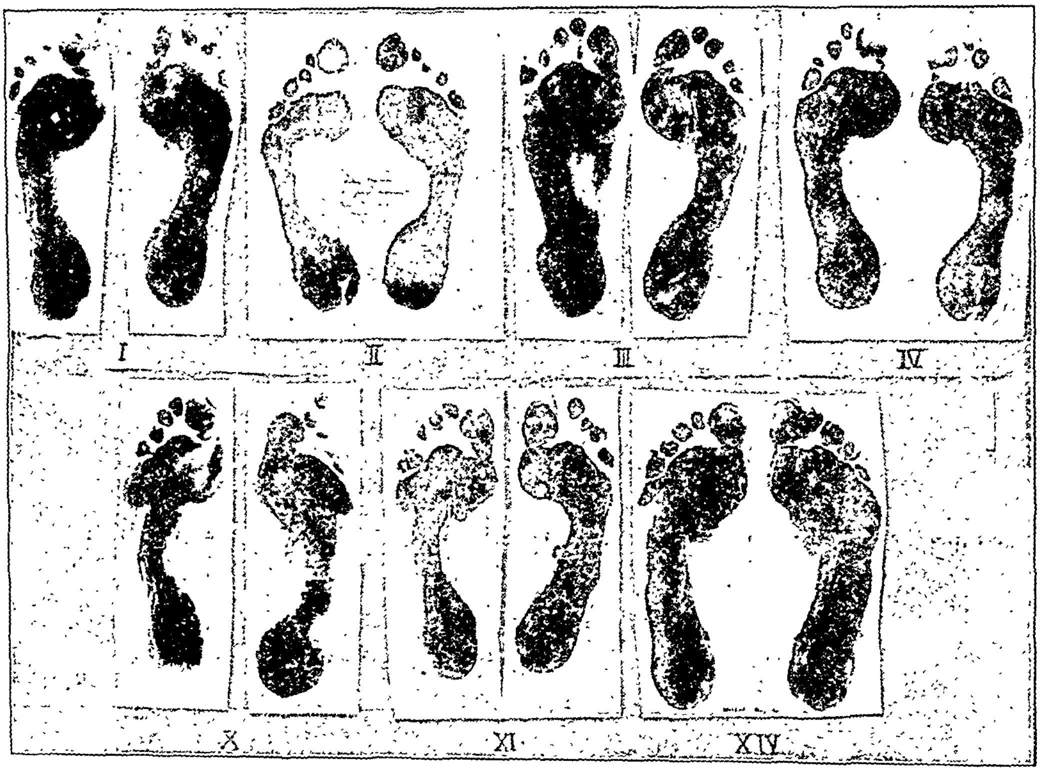

Fig. 2. Tracings of tabetic feet showing preservation of longitudinal arch and pronation as shown by the outer edge of foot raised from paper, X and XI especially.

MATERIAL.

The material on which this paper is based consists of fifteen cases of tabes dorsalis observed during a period of two years. The number was thought large enough, as no question of statistics was involved and no source of error due to small numbers of observation was an important element. Furthermore, this small series could be easily controlled and observed. In no sense was the material selected. As time and opportunity presented, these cases were examined, the results noted, and the final conclusions were determined from the facts observed in the whole material. The methods of study were very simple. The cases were studied clinically by the usual neurologic examinations. The diagnosis in none of the cases is open to the slightest doubt. The gait and posture were studied by both of us at many different times, and the conclusions so determined were carefully discussed in the light of the data obtained by measurements, photographs, tracings and foot prints. With the general principles so determined, the attempt at therapy was based and the improvement in gait noted.

LITERATURE.

Scant mention of the tabetic foot in the sense used in this paper is to be found in the literature of tabes or in the orthopedic literature which treats of the pronated foot.[1] A brief note on the hypotonic flattening of the foot in dementia paralytica is given by Féré.[2] There is one tracing of such a foot included in his paper, but no mention of the pronation and none of the arch. Féré thinks that the flattening is due to the hypotonia plus the increasing weight of the patient which he studied. There is no hint contained in the paper that he finds any connection between this and the ataxic gait. The foot shown, however, is very like the ones which we have studied in our work. Most of the literature on the so-called tabetic foot—*pied tabetique*—is concerned with descriptions of the arthropathies in the feet of tabetics.

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[1] Some of the literature not referred to in detail below is as follows:

Lovett and Cotton: "Practical Points in the Anatomy of the Foot," Am. Ortho. Assn., vol. ii, p. 298.

Jakob: "Treatment of Tabes Dorsalis," Handbuch der Physikalischen Therapie.

Ueber Muskelschlaffheit bei der Tabes Dorsalis," Neurologisches Centralblatt, 1896, No. 8.

H. S. Frenkel: "Grundsaetze der Uebungs Therapie," Berl. Klin. Woch., No. 19, vol. xxiii, 1905.

R. W. Lovett: "Affections of the Arch of the Foot Commonly Classified as Flat Foot," Trans. Amer. Orthoped. Assn., vol. viii, p. 78.

Blodgett: "Static Foot Errors," The Journal A. M. A., Aug. 24, 1904.

Ferd Schultze: "Die Behandlung des statischen Platt-Fusses," Zeit. fur. Orth. Chir., vol. xiii, p. 502.

[2] Féré: "Note sur L'Applatisement Hypotonique du Pied chez les Paralytiques Generaux," Nouvelle Iconographie de la Salpetrière, No. 1, 1904.

In Hoffa's[3] well-known monograph there is no mention made at all of the points brought out in this paper, although he has a material of twenty-six cases of tabes in which various orthopedic measures were tried.

There is frequent mention made of club foot in tabes called *pied bot tabetique* by the French writers, who seem to have done most of the work in this connection. Joffroy, in 1885, described this deformity for the first time. He seems to have realized that it differed from the ordinary club foot. He lays particular stress on the fact that the club foot of tabes is not due to the atrophy of the muscles as in the paralytic club foot, nor is it due to an osseus process, but to the flaccidity of the muscles. He calls it the atonic club foot. The hypotonia plays here also an important rôle.

Idelsohn,[4] in a paper on the pathology and histology of the tabetic foot, considering this term only as descriptive of the tabetic arthropathy, mentions the frequency of the combination of the tabetic foot with flat foot. This, by the way, seems to be a very commonly accepted opinion, the frequency of flat foot in tabes. It is to be regarded as an error in observation, because the tabetic foot is not a flat foot at all, but is a pronated foot. To the orthopedist this distinction is obvious enough. These brief and altogether unsatisfactory references are all that can be found in recent literature. It seems to show that the points brought out in this paper have not been given the proper degree of attention or that the very patent fact of foot deformity in tabes has been regarded as definitely settled when the term flat foot has been used to describe it.

As to our own observations on the gait and postures assumed by tabetics, we have noted a marked variation in degree and kind, depending apparently on the amount of ataxia, with the reservation that complicating factors, such as blindness, double vision, etc., are excluded. On standing, the tabetic unconsciously assumes a position which supplies to him a broad base of support. This broad base is secured by strongly everting the feet and standing with the knees well apart and at times one foot or the other advanced. The gait, which has been described as pseudo-spastic, is simply a progression of this standing position. The strongly everted foot is lifted and brought forward with an uncertain sort of slap and placed on the ground in a position of eversion. Oppenheim,[5] failing to note the importance of the eversion and pronation of the foot, thus describes the typical gait in tabes: "The patient lifts the free leg abnormally high by means of the overacted flexion and outward rotation of the hip joint. Then he throws it down forcibly, meanwhile overextending the ankle joint and foot, so that the foot is set down in a stamping manner, heel first. The knee of the resting leg is abnormally strongly overextended. He walks rapidly with unequal steps, looks always with his eyes fixed to the ground and would fall if he turns his eyes in another direction." The toe falls to the ground, because the heel strikes first. The gait may be described in a few words as pseudospastic, uncertain, irregular and everted.

As Whitman[6] has shown, there is a marked mechanical disadvantage produced in either standing or walking with the foot in an everted position, as the body weight falls inside the tarsal arch and the tendency is to roll the foot inward. i. e., pronation. Accompanying this pronation of the foot the weight-bearing line also falls to the inside of the knee joint. These two mechanical disadvantages we have observed to be very evident in our series of cases. The degree of pronation was so striking in many of these cases, as, for instance, in Case 1, that the feet presented the appearance of being absolutely flat.

Tracings were taken in order to demonstrate the presence or absence of the arch of the foot. Invariably it was found that the arch had not collapsed. In some of the tracings the outer edge of the foot is raised from the paper, showing the degree of pronation present. In none of the tracings is there any evidence of arch obliteration. The discrepancy which exists between the appearance of these feet in standing and walking and the evidence as shown by the tracings is perfectly apparent. The feet were found to be flexible to a marked degree. This flexibility in many of the cases extended to a condition of hypotonia.

As far as these fifteen cases go, we are inclined to the opinion that the tabetic foot is a pronated foot; that this pronation is a result of the tabetic changes in the cord and peripheral nerves which make it necessary on account of the loss of muscle sense and other sensory changes for the individual so affected to assume the everted pseudospastic gait; that the arch of the foot is not collapsed, but that it is much lowered, due to the hypotonic condition of the muscles; that this pronation as well as the hypotonia, varies from the extreme condition, which the photograph (Fig. 1) shows, to a condition where the pronation is not easily observed, and that this variation seems to depend on, or rather to accompany, the amount of ataxia.

In observing these cases it immediately occurred to us that a correction of this faulty walking machine would be of benefit to the patient. The things to be accomplished seemed to be to correct the pronation and to hold the foot when bearing weight in a supine position, to construct a shoe that would supply a broad standing base. These needs being fulfilled, it would be possible for the tabetic to learn to walk much more readily and comfortably than when handicapped by the mechanical disadvantages incident to eversion and pronation.

It might be mentioned in this place that the Fraenkel[7] method of exercise treatment was used in most of these cases in conjunction with the attempt to improve the mechanism of walking.

We at first placed under the feet of our patients the ordinary steel flat-foot plates designed to correct pronation. It soon became apparent, however, that it was necessary to supplement this form of support by broadening the walking base. Later we have given up the steel plate and are depending on a modification of the shoe designed by Mr. Thomas[8] for the treatment of ordinary valgus. Briefly, this shoe presents the following points: The heel is run forward on the inside to the distance of from half an inch to an inch. Between the inner and outer soles a wedge-shaped piece of leather is placed which is designed to raise the foot at its inner edge an eighth to a quarter of an inch. Various flat-foot appliances, such as cork pads or steel plates, are placed in this shoe to support the hypotonic arch. Some of the patients presented a hypotonic condition of the ankle joint, which we have treated by having a leather stiffening in the inside of the upper.

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[3] Hoffa: "Die Orthopedie im Dienste der Nervenheilkunde," 1900.

[4] Idelsohn: "Ein Beitrag zur Pathologie und Histologie des Tabischen Fusses," Deut. Zeit. fur Nervenheilkunde, vol. xxvii, Nos. 1-2, 1904.

[5] Oppenheim: Lehrbuch der Nervenkrankheiten, Fourth Edition.

[6] Whitman: "A Study of the Weak Foot," Trans. Am. Orthopedic Soc., vol. viii.

[7] Fraenkel: "Die Behandlung der Tabischen Ataxie mit Hilfe der Uebung," 1900; also "Ursachen der tabischen Ataxie," Neurolgisches Centralblatt, 1897, Nos. 15 and 16.

[8] Thomas: Bulletins et Memoires de la Soc. med. des Hopitaux, 1885 (Quoted in Maladies de la Moelle Epiniere Dejerine).

As a direct result of the pronation there is undue strain thrown on the knee, transmitted to the hip and affecting the spine. Dane,[9] in an article entitled "The Effect on the Leg of Pronation of the Foot," comes to the following conclusions: "In addition to the generally recognized motion of the malleoli inward and slightly downward, the normal outward rotation of the tibia is replaced by an exaggerated rotation inward. These changes acting together produce an alteration in the obliquity of the axis of flexion of the ankle joint sufficient to destroy the mechanism by which the normal joint is enabled to support the body weight. As a consequence, flexion must be prevented and equilibrium be maintained wholly by muscular force. This increased rotation of the tibia interferes to a great extent with the operation of the mechanism by which complete extension of the knee should lock the joint and render it proof against the constant tendency of the body weight to flex it. The knee must, therefore, in subjects with pronated feet be kept in extension by constant exercise of muscular force."

From a clinical point of view, the cases offer nothing of interest. They represent an average lot of tabetic cases such as come to every neurologist. Excluded from this series are bed-ridden tabetics, and those who have arthropathies of the feet, and those who have any complications which in themselves might explain the condition of the feet.

From the tracings here shown the character of the feet is apparent. That they are pronated can not be denied, and that they are not flat feet is also definitely proved. An interesting point might be mentioned here, and that is that there is very evidently some relation (how close we are not yet ready to say) between the degree of pronation and the degree of ataxia. This is well shown by Fig. 2. This is the most normal foot in the series and this case had absolutely no demonstrable ataxia. We are inclined to believe that this observation, if it is proved to be a fact, will be of some diagnostic and prognostic importance.

THERAPEUTIC ATTEMPTS.

In the face of the obviously wrong mechanics of the tabetic's implement of walking, a correction was indicated, based on the degree and the kind of deformity found. This correction was only gradually arrived at, as we were on absolutely new territory. The shoe that we are using now is the result of a number of experiments, and we are by no means as yet certain that we have devised the perfect shoe for the ataxia gait of tabetics. The following represents the principles on which the shoe was devised and the reasons for each improvement:

The internal excursion of the ankle and the inward rolling of the foot we have tried to overcome by means of an artificial support, realizing that, in addition to the mechanical disadvantages in walking, the position tended toward abduction and flattening of the long arch of the foot. The plate known as the Whitman plate is in the ordinary case an effective devise for the correction of pronation, reminding the wearer at each step by its pressure on the scaphoid that the foot must be supinated. The nervous changes in tabes dorsalis leading to anesthesia remove this element and make it necessary to have a support that gives definite pressure to counteract the pronating tendency. After we had tried various steel supports, we came to the conclusion that the difficulty was not in holding up the arch, but in preventing the inward roll of the foot. This fact has been demonstrated by Hoke and Bradford.[10] We found it to apply especially to the tabetic foot, having the above nervous elements to combat.

The shoe designed by Thomas we have used of late with the best results. This shoe shifts the weight to the outer side of the foot and holds the foot in a supine position. Using the knowledge given us by Hoke and Bradford,[10] the support inside this shoe is placed so as to supply the lifting resistance beneath the internal cuneiform bone, that is well forward of the astralalus in order to check the pronation. A cork insole cut so as to meet these conditions we have found by experience to serve better than a steel plate, its points of advantage being its lightness and the lack of dangerous rigid pressure.

Realizing that the tabetic needs a broad, sure footing, we have used an ordinary broad, straight-last, laced shoe. To this we have added the lengthened heel and the raised inner edge as the main factors of correction. As to the amount of supination necessary we have had some difficulty; at first we put all of our cases into well-marked supination, throwing the weight well to the outer arch of the foot. In some of the cases it soon became apparent that this position was causing trouble, as there was too much strain on the ligaments. As a result of this development, we have been trying of late to judge the amount of pronation in a given case and to give to this case a support that corrects this pronation, but does not overcorrect it.

Another point that is of less importance, but that nevertheless has aided some of our patients to a material degree: we found that by putting a series of transverse cleats on the sole of the shoe the footing was made more secure; these cleats are similar to those that are seen on the shoe of a football player. They are one-eighth of an inch high and run across the sole zigzag or straight lines about an inch apart, three in number. These cleats have given an added sense of security, especially when the patient is walking on a plane surface; incidentally the increased height has prevented, in one case, the toe striking the ground in the forward movement in walking. In several cases the hypotonia has been present to such an extent that the ankle joint has needed support; this need has been filled by adding a leather stiffening to the inside of the upper of the shoe. Such a shoe as this we have found to be of undeniable advantage to this class of cases. It is important to have the sole and heel level so that the surface contact is perfectly applied, allowing no rocking.

In regard to the therapeutic results of this study, we are much inclined to be very conservative, as is consistent with a method as new as this one is. We have little doubt, however, that the patients to whom we have given the shoe have shown from that time on a marked improvement in their gait. They all have said that they feel very much more comfortable, have less hesitation in walking, have more confidence in themselves and are enabled to walk greater distances than before without fatigue. From our own observations we are convinced that the improvement in these patients is not imaginary, suggestive or due to faulty observation. The striking improvement in the posture of these patients is well worthy of note and is particularly of value because some of them had occupations that required upright positions for long periods of time. From a mechanical point of view the tendency to assume normal attitudes in both walking and standing was especially striking. Another factor of some importance was the disappearance of pain in some of these cases. If the pronated foot in otherwise normal individuals causes pain by the overexertion of certain muscles, this same condition must be harmful in tabetics. We feel that further study in this direction may throw some light on the production of the arthropathies in tabes, for the reason that faulty attitudes, by throwing weight and strain on structures not designed to withstand them, may more easily become the seat of the joint and bone changes typical of those found in tabes dorsalis.

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[9] Dane: "Some Effects on the Leg of Pronation of the Foot," Trans. Amer. Orthopedic Assn., 1897.

[10] Hoke and Bradford: "An Anatomic Consideration of Pronation and Its Relation to Treatment," Trans. Amer. Assn., vol. viii, p. 175.

CONCLUSIONS.

1. This series of observations has shown unquestionably that the foot of a tabetic with any degree of ataxia in the lower extremities is a pronated foot.

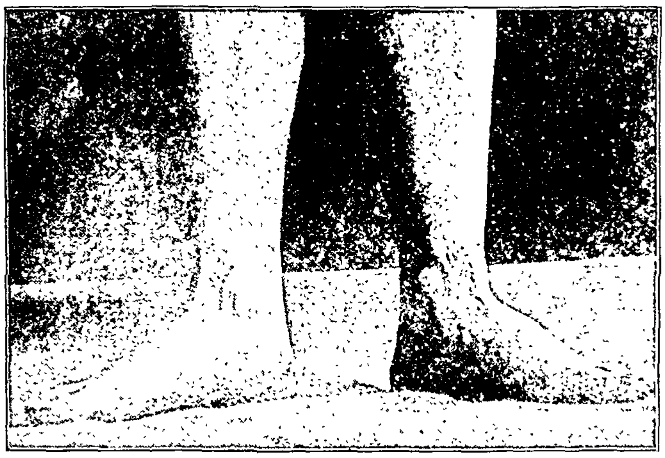

Fig. 3.—Standing position of a tabetic showing strongly everted feet.

2. The effect of this pronation leads to muscular strain on the ankle, knee, hip and spine. This, together with the hypotonia, tends to break down the long arch, thus producing a faulty mechanical instrument by which walking is accomplished.

3. The pronated foot plays an important and hitherto unrecognized rôle in the production of the ataxic gait in tabes.

4. Correction of this faulty mechanism tends to increase the ability of a tabetic to learn to walk normally.

5. In conjunction with the Fraenkel method of exercise treatment, the correction of the faulty mechanism of the foot indicated in this paper offers the most favorable treatment for the ataxic gait of tabes dorsalis.

DISCUSSION.

Dr. H. T. Pershing, Denver, Col., said that in the past efforts to relieve tabetic symptoms have been very restricted, and that anything which will enable the patient to walk better is likely to be of very great service. Dr. Pershing mentioned the shoemaker, told of by Dr. Patrick several years ago, who made a special kind of shoes for tabetic patients and sold them for $100 a pair. Dr. Pershing said that at first it seemed absurd that any one would be willing to pay such a price for a pair of shoes, but now he can easily see that a pair of shoes properly made to correct the mechanical defects in tabes would be worth a great deal more than that. He classes the orthopedist nearer the neurologist than any other specialist, and stated that he gets more help in his work from his colleague, Dr. Packard, an orthopedist, than from any other man. Dr. Pershing also mentioned the fact that Dr. S. Weir Mitchell's Hospital in Philadelphia is known as the Orthopedic Hospital and Infirmary for Nervous Diseases.

Dr. John Punton, Kansas City, Mo., said that all neurologists who treat tabetic patients know how limited are the means for giving them relief, and that any method of treatment which assists in any way to overcome the ataxic gait is most valuable. If the method advocated by Dr. Schwab can be borne out by practical experience, Dr. Punton considers that he has made a step in advance in the treatment of tabes, for which he deserves thanks.

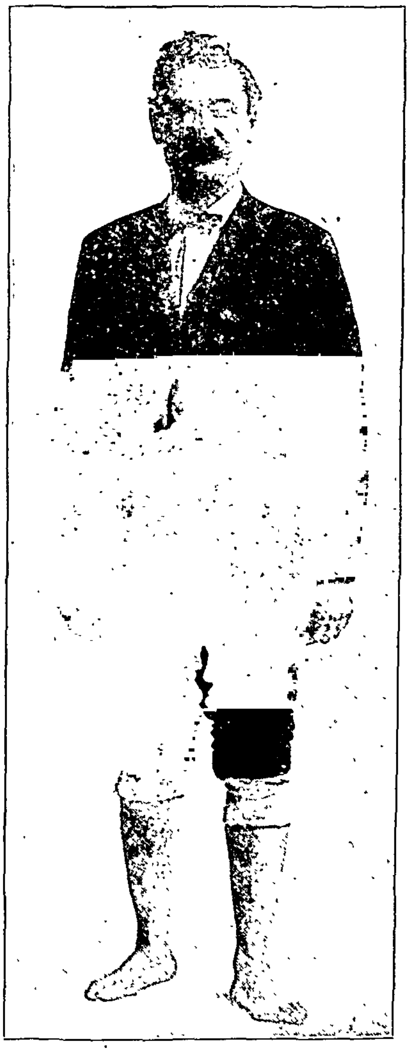

Fig. 4.—Everted pronated feet in tabetic gait.

Dr. Smith Ely Jelliffe, New York, declared that when an individual has an ailment that is bound to last for 13, 15, 20 or 25 years most physicians lose enthusiasm in his treatment. The physician is apt to tell such persons that there is very little to be done for them, and as a consequence they stray into the hands of irregular practitioners and help to make those individuals successful. Neurologists are to blame, Dr. Jelliffe said, for not taking enough pains with these patients. In referring to shoes for tabetic patients, he said that, while shoemakers in Chicago charge $100 for a pair of shoes for these patients, in New York one man charges from $3,000 to $4,000. A shoemaker there has profited for many years in the construction of special shoes for tabetic patients for which he charges a special price, and the chief reason that he is able to succeed is that very few neurologists and very few orthopedists have taken as much pains as that shoemaker has. He is entitled to his profits, to a certain extent. Neurologists are not quite so careful nor so optimistic as they might be, and the cases drag on indefinitely because of the obvious past experiences in the treatment of tabes.

Dr. David I. Wolfstein, Cincinnati, Ohio, said that he knows of a man who paid $750 for a pair of these shoes, and he had to take them back to the shoemaker to have them fitted. The man returned home very happy with the shoes, but in about two or three months he ceased wearing them and the shoemaker had the $750. Dr. Wolfstein does not know what became of the shoes. He asked Dr. Schwab whether or not progression in the hypertonicity would be overcome by correction applied to the tabetic foot, and if he has had an opportunity to examine the condition of the tabetic hand in cases of ataxia of the upper extremities, and whether or not that is explained by the same conditions as in the foot.

Dr. J. W. Putnam, Buffalo, N. Y., said that it is the original name of the disease, progressive locomotor ataxia, which has so influenced physicians and made them unwilling to attempt the treatment of the disease. One must be careful to avoid too great confidence in any system of mechanical correction, for no mechanical correction can be of permanent value. When suspension was first used in the treatment of locomotor ataxia the explanation was made that it relieved the patients by stretching the spinal cord and changed the nutrition of the cord, and that the benefit to the patient was permanent; but as years went by and the number of observations continued the number of patients that were benefited decreased. Dr. Putnam believes that the greatest advance made in the treatment of locomotor ataxia was started by Fraenkel in his movement treatment. He gave the patient at first the simple movements and when he was able to accomplish these he added more difficult movements, such as walking backward, and lengthened the steps. It is simply in the development of the muscles along that line that the education comes to the legs, just as the education comes to the hand of the skilled piano player. The more one gives exercises and the more these are varied the more the direction of the nerve paths is changed; the more self-reliant the patient is made the more he will improve. When he becomes more able to carry out the difficult movements the simple movements become easier. The same thing is true in regard to the mechanical correction. It is the importance of the relative position of the shoes, of the relative balance of the muscles. The two factors must work together. If the patient relies on a $5,000 pair of shoes, minus the *Fraenkel* movements, there would not be much benefit. This correction of the tabetic foot is of very little value of itself, but in combination with the education of the brain and the development of the muscles many of these patients may obtain a great deal of benefit.

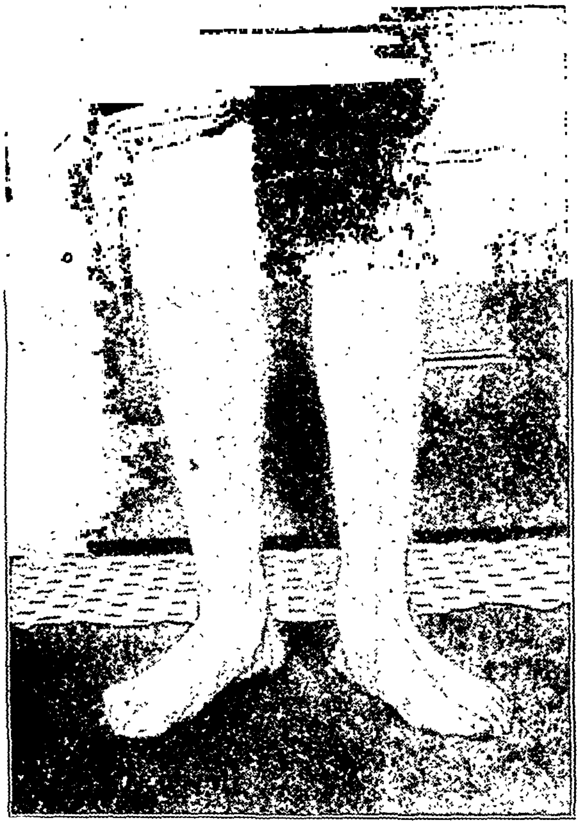

Fig. 5.—Pronation and eversion of feet in standing.

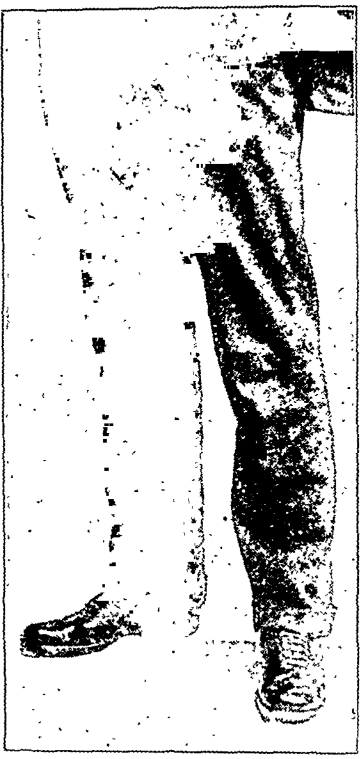

Fig. 6.—Corrected attitude of tabetic wearing modified shoes.

Dr. Sidney I. Schwab stated that an investigation based on fifteen cases must be regarded as preliminary to further work along the same lines. There is a possibility that further study in the mechanics of the tabetic foot will give much valuable information. When he spoke about the two or three patients who never had any pain after the shoes were worn, he did not refer to the typical tabetic pain, but to muscular pains which were attributed to the wrong position of the foot. He emphasized one point in regard to combining this method with that of Fraenkel and that has reference to the effect on the patient in a psychologic sense. The greatest relief that one can afford tabetic patients with ataxia of the lower extremities consists in the restoration of their gait to somewhere near normal conditions. Most patients do not care whether they have a knee jerk or not. They do not care whether they have an Argyll Robertson pupil or not, but they do care about their inability to work without exciting attention. The thing that separates a tabetic from the rest of the normal world, from his point of view, is his peculiar gait. If that can be corrected so that it approaches to the normal, then many thousands of happy moments are added to the tabetic's life. The patient's chief concern is centered on this point. If the gait in a tabetic can be corrected, all that can reasonably be expected from therapeutics is accomplished. The shoe as Drs. Schwab and Allison have planned it adds about three or four dollars to the cost of a good shoe. They have heard that a very expensive shoe for tabetics which is manufactured at an excessive price is on the market. The probability is that this shoe is made with a very broad base, thus insuring a certain amount of firmness to the patient. In respect to the effect of this treatment on the hypotonicity, Dr. Schwab does not feel that the material is sufficiently large to speak with any certainty. He has no means of observing the degree of hypotonicity or rather of measuring its extent. Certainly no marked change has been produced. The probability is that if the joint is hypotonic it will always remain so. We simply tried to *correct the mechanical function of the joint and not its anatomic condition.* As far as the ataxia of the hands is concerned this is an entirely different proposition. The hand bears no constant weight, and this weight-bearing function of the foot creates the problem under consideration. The shoes have been worn by some of the patients about eight months. Drs. Schwab and Allison have found so much to learn and so much to correct that they can not say that the best sort of shoe has as yet been devised. The fact that the patients feel more secure the moment that they wear the shoes has been a constant observation. Some of the most important features of the shoes were suggested by the patients themselves.

THE WATER SUPPLY IN SHIPS FROM ITS BEGINNING TO THE PRESENT TIME.*

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The problem of the water supply for sea-going ships is one of the most important and, at the same time, one of the most difficult to solve of all the problems of naval hygiene. It certainly is not a simple question. Ships can not always choose the source of their water supply. It may be impure or even infected to begin with. But even granting that it was faultless when collected, it may not remain wholesome during a long cruise.

The early efforts of the old sanitarians to provide faultless drinking water for seamen are full of pathos. Before the last century men did not know in what wholesome drinking water consisted. Much less did they know how to preserve it pure and sweet. When in addition to the ignorance of the age we find all efforts toward progress met either with cold indifference or active opposition, we may easily see why so little advance was made and feel a deep sympathy with the old ship's surgeons, Blane, Lind, Trotter, Fonssagrieves and many others in their fight against such obstacles.

To-day, with the help of chemistry and biology, the naval hygienist has come nearer solving the problem of a perfect water supply. While there are yet a few details to be perfected, we feel that they will soon be remedied and we, therefore look to the future with confident hope of success.

SOURCES AND COLLECTION OF WATER.

Until recently little or nothing was known about what drinking water should or should not contain. Of the two classes of impurities, organic and inorganic, the inorganic was the first to be investigated. About 1850 chemistry was far enough advanced to come to our aid and give us a few analyses of water. Later in the century biology helped us to discover the source of the more dangerous form of organic contamination and gave us means and methods for preventing the same.

A century ago, however, nothing of all this was known. The old sanitarians were influenced in the choice of water not by knowledge but by personal whims, a condition which even to-day has not wholly passed away. Neither chemistry nor biology has given us analyses that can be considered as generally applicable to all places and conditions at the same time. Different localities on the earth's surface produce waters of different compositions, and neither a chemical nor a biologic examination of a given water may be of any great value without a local inspection of its source. When we, moreover, consider that it is the proper and judicious interpretation of all the data involved that can give us an adequate idea of the nature of a water, we ought rather to be surprised at what the old sanitarians did know than at what they did not know.

Dr. Gilbert Blane,[1] for instance, tells us that "spring water is to be preferred to running or stagnant water," saying "unless it is taken at the source or near it, it is apt to be impregnated with decayed animal and vegetable substances, such as grass, wood and dead insects. This is an inconvenience that is greatest in hot climates, where everything teems with life and where materials of putrefaction are both more abundant and more prone to corruption."

That the greatest danger was hidden in the organic impurities of water was already well known in the midde of the eighteenth century, at least to Blane, we have a right to infer, for he says of that kind of impurity that "it is the most pernicious impurity" and that "the mineral impregnations common in springs are seldom in any degree unwholesome and do not, like the other, make the water corrupt." These are certainly correct observations and would pass muster to-day. The great and urgent necessity in those early times of navigation to procure a good and wholesome drinking water for a ship, in most any part of the world, sometimes took those old sanitarians far afield to inspect any lake. brook, spring or well that offered such a supply and made them practically acquainted with the natural sources of water the world over.

That meteoric water was at least in part depended on for furnishing a supply of drinking water, is perhaps easily understood, and may, moreover, be gathered from the early writers. Thus, Captain Cook, during his memorable cruise between 1772 and 1775, during which it is said that he lost but one man from disease, attributes to rainwater the swelling of the glands of the throat, and Gautier says of glacier water that it is very unhealthy. But Saussure already has called attention to the fact that the people in the high Alps, as well as the Esquimos, known to consume water from melted ice and snow, were essentially healthy peoples; and Wilson[2] says of rainwater : "When carefully collected, kept for a week or two in an iron or brickwork cistern, until its organic matters are decomposed, there is probably no better drinking water to be obtained." The explanation of all this is, as we know now, that rainwater, especially when collected in mid-ocean, is essentially a distilled water. While free from positive contamination, it never contains mineral salts to make it palatable.

One danger not sufficiently recognized in the early days of navigation is becoming better appreciated in recent years. That is the danger from contamination of water during its transport from shore to ship. A water perfectly pure and wholesome at its source may, by the time it reaches the ship or the sailor's stomach, be totally the reverse. Water, no matter from what source, must be taken to the large ships by a water boat. Barrels, wooden or iron tanks, earthenware vessels or even open rowboats may intervene between the natural source of supply and the scuttle-butt, with all the chances of contamination which such transport suggests. It is useless to say that, in these days of distilled water, these methods are no longer in practice. Every naval surgeon knows that a cruising ship will often take water from shore and fill its tanks with it, whether it is merely feed water for the boilers or not. These same tanks are used again for drinking water and consequently can remain safe from infection only when none but pure water is allowed to be stored in them. Again, every cruising ship will now and then get into places in which the most primitive methods of watering a ship are the only resource.

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] "Observations on Dis. of Seamen," 3rd Edition, London, 1799. p. 297.

[2] "Naval Hygiene," by Joseph Wilson, M.D., U. S. Navy, Philadelphia, 1879.

The usual method of examining water after it had reached the side of a ship in a water boat was merely perfunctory and of no practical value whatever. A sample of it was indifferently collected in a tumbler or tin vessel by a messenger boy and sent to the apothecary for examination. The only test applied was the nitrate of silver test for chlorids and the water was pronounced good or bad in proportion to the turbidity being much or little. Better training of naval surgeons in methods of hygienic water analyses and a more liberal supply with the means to carry them out on board ship have wrought great changes and improvements within recent years. But unless the naval sanitarian watches every step which the water takes from its source of collection until it finally reaches the tanks of his ship, he can form no adequate idea and make no trustworthy report as regards the quality of the water collected. No chemical or bacteriologic examination will give him data sufficient to make a complete and sufficiently reliable report on the quality and fitness of the water in the ship.

STORAGE OF WATER.

The storage of water on board ship dates from the time when ships first took to the high seas and went out on long voyages away from land. For short voyages in small boats little water was needed and the time of storage was short. This small amount was kept in earthenware vessels, and even to-day this is the favorite and handy means of keeping small amounts.

For long voyages, however, where the crews are large, this method is inadequate and wooden barrels at first took the place of earthenware jars. Notwithstanding the fact that water thus stored became putrid after a while, this antiquated method of storing endured over 200 years. Putrefaction was expected to occur as a matter of course and was so universal on shipboard that sailors had the common superstition that water had to putrefy three times before it became drinkable. No one ever succeeded in preventing this putrefaction of water stored in wooden casks or barrels.

That the wood of the barrels out of which the casks were made had something to do with putrefaction of the water stored in them was well known to the old, observing sanitarians, who had various ways of treating these casks so as to preserve the water in good condition. Says Blane,[1] "The purest water is apt to spoil by producing a putrid glare on the inner surface of the cask which contains it. There is a great difference in this respect between a new cask, especially if made of moist wood, and that cask which has been hardened and seasoned by age and use. Several contrivances have been proposed for preparing casks that hold water, but none have been found by experience so effectual as letting them stand for some time full of sea water, and it is a great advantage of this method that it is so easily practicable." And then he continues to say: "We consider all water kept in wooden vessels as more or less liable to putrefaction, but there is a substance which is neither rare nor costly that effectually preserves it sweet. This is quicklime, with which every ship should be provided in order to put a pint of it into each butt when it is filled."

"It is probably owing to the small amount of quicklime found in Bristol water that it is so incorruptible. It has the advantage of not being injurious to health but, on the contrary, is rather friendly to the bowels, tending to prevent fluxes." Finally, he fortifies his recommendations by experience, saying: "In the year 1779 several ships of the line arrived in the West Indies from England, and they were all afflicted with the flux except the *Stirling Castle*, which was the only ship in which quicklime was put into the water."

Blane explains the action of quicklime by the destructive property which it has on animal life and on the "glare" that collects on the sides of the cask, as much as on a species of vegetation of the order called algæ by the naturalist. He also speaks of alum, cream of tartar, vinegar, vegetable and fruit juices and tamarinds as having been made use of. He relates, among others, that the fleet under Sir Charles Saunders found that the waters of the St. Lawrence produced fluxes and that this quality was removed by throwing in four pounds of burnt biscuits into each cask before it was used. But he adds, "there is nothing so effectual and subject to so few inconveniences as quicklime." Thomas Trotter,[3] after treating on diet, remarks: "We can not leave the dietetic part of our work without adding some remarks on water. We were employed the whole summer of 1792 in making experiments on the best method of preserving water pure and sweet in long voyages, and a summary of this is published in a later work called 'Medical and Chemical Essays,' printed by Jordan, Fleet street, for Mr. Maubray of Portsmouth, to whom I presented a copy at the time his printing office and materials were burned, in December, 1794. We found, after trying everything, that the best practicable method was gently charring the casks in putting them together, both staves and heads, which rendered the surface unfit to decompose the water. But so little was this practice deemed perfect by the victualling board that Mr. Reeks, the cooper at Weevil, showed us an order from the commissioners expressly forbidding it, as they said it blackened the fluid." Then he continues: "It, moreover, makes the casks last longer by hardening them against worms in hot countries and also less liable to shrink from the hoops.. The whole process," he says, "is dependent on chemical principles in the above work and no one has dared to say that they are wrong." "I now, in the name of the service, request some captains to take the business up and carry to sea a given number of casks filled with pure water, one-half charred according to our way and the other half in the common way. Some trusty person must superintend the duty that it may be fairly tried, for we know it must succeed."

PRESERVATION OF WATER.

Nowadays, none but a few fishermen perhaps use the wooden casks for water. Since we can not and will not wait for our water to become thrice corrupt, as the old saying was, some shorter means had to be found. It was becoming more and more recognized that the method of storage had to be improved in order to preserve water sweet. The otherwise good effects of charring having proved of merely temporary benefit, sulphurization was tried and found better. The manner after which sulphur was used is as follows: The sulphur was burned in the barrel and then the barrel was filled one-fourth of its capacity with water, then some more sulphur was burned and the barrel filled half full of water, and so on until the barrel was full. Then, for every ten liters of water twenty drops of sulphuric acid was added and the barrel covered up. Such water, though with an acid taste, was not disagreeable to drink.[4] Then the addition of oxid of manganese was attempted in the proportion of one gram to 150 liters, as had been recommended by Perrinet. Although this process gave the water an acrid, rather astringent taste, it was inoffensive, more expeditious and much easier carried out than sulphurization. In 1822 four barrels of water were treated in France, two by charring and two by addition of oxid of manganese. After 33 months the water in the former two was found to be in a putrefying condition and that in the latter two was found good to drink in spite of its taste. The facts could not be denied and every one had by this time come to recognize that all efforts to render wooden barrels a fit means for water storage had miserably failed in one way or another. Recommendations for substituting iron casks for wooden barrels were first made as early as 1739 by Sibon, a captain at the port of Toulon,[5] while General Bentham is said actually to have introduced iron casks into the British navy in 1798, after previously experimenting with them for years. This was done later also in the French navy, and the cruiser *Uranie,* fitted out to go on a scientific expedition, was the first ship of the French navy supplied with iron tanks alone.

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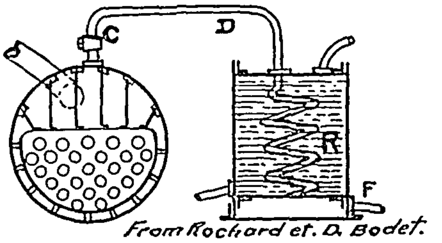
[3] Trotter, Thomas, M.D.: Medicina Nautica, London, 1804, vol. II, p. 167.



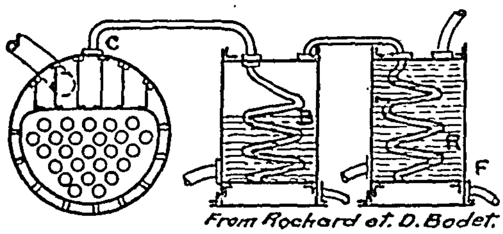
From Rochard et. D. Bodet.

Fig. 1.—Distilling apparatus of Rochard and Bodet.

This does not mean, however, that the practice became universal immediately. On the contrary, it spread very slowly, indeed, for we have in our own navy a fairly recent record of the use of wooden casks down to the latter part of the last century. Rear Admiral G. W. Baird,[6] U. S. N. (retired), writes me that the sailing sloop *Constellation,* of 1,186 tons displacement, carrying a crew of 228 men, had 48 iron tanks and 124 wooden casks, containing 32,364 gallons, 120 tons of water. The amount of space which these water casks occupied is shown in the further statement of Baird, when he says: "The 48 iron tanks alone weighed 31 tons, there being no record of the weight of the casks. In this ship it will be seen that a little over one-eighth of her total displacement was taken up in the water supply." The delay in the introduction of iron tanks must be attributed to two principal causes: (1) In prebacterial days no satisfactory explanation could be given for the occurrence of putrefaction in wooden barrels, and therefore no good reasons seemed to exist why the same water should not putrefy in iron casks as well as in wooden vessels. It was not recognized and, consequently incredible that the source of putrefaction consisted in bacterial action on sulphates contained in the water. Now that we know of sulphur bacteria engaged, on the one hand, in reducing sulphates to sulphuretted hydrogen, and in oxidizing the latter to sulphates, on the other, we can better understand at least one of the causes of this trouble and how the porous wooden walls became the culture plates for that class of organisms. (2) The other reason is that iron casks, although a great improvement over wooden barrels, also had their serious objections themselves. One of these was that they were expensive and the other was that the iron was quickly oxidized and the resulting rust deposited in large quantities. The iron rust that forms as a result of the direct contact of pure water with the unprotected iron plates is at first deposited; when the ship gets under way it becomes suspended in the water. When we add to this the heat of a tropical climate and of a hot ship, a drink of such water, it may easily be imagined, is not very refreshing, to say the least of it.

According to Rochard et Bodet,[4] from 8 to 10 kg. a year were collected from a single tank.

Since it was, moreover, not indifferent for the health of the consumers whether a water did contain iron rust or not, means had to be taken to prevent the water from coming in direct contact with the iron, thus keeping the tank from being eaten up and the rust from getting into the water. After experimenting with various kinds of gums and gum resins, with lead and zinc linings and coating the walls with lime in more modern times, the most commonly employed material to-day and the least objectionable for lining these tanks is Portland cement.



From Rochard et. D. Bodet.

Fig. 2.—Distilling apparatus showing special condenser.

In lining the tanks with cement, various additions to the latter have been recommended. Thus, Sestini recommended that chalk be added to it; but this resulted in a very hard water. The best and simplest process is that recommended by Lefèvre and is as follows: The sides of the tank are thoroughly scraped with a metallic brush to free them from rust. This is followed by flaming the sides with a soldering lamp. After flaming, the best Portland cement, made into a convenient consistency, and prepared with boiled water, is applied with a soft brush and allowed to set perfectly; several coats may be applied if necessary. After the cement has hardened, the tank is ready for use. Such a lining, it is claimed, will last for two years. Chalk, to say the least, is unnecessary. We may conclude, therefore, that the problem of preserving water on board ship is provisionally solved and that iron tanks with a cement lining will be used in the future on all ships of the navy as in those of the merchant marine where the vast importance of a good, wholesome water is recognized and appreciated.

WATER CORRECTIVES.

Imagine seamen in the early days of circumnavigation, far away from land and pure water with nothing but bad water to quench an ever-recurring thirst. We cannot wonder that they should try by every means conceivable and inconceivable to improve their drinking water. We, therefore, find a host of remedies for bad water some of which even anticipated the methods in use to-day. Says Blane, writing in the latter part of the 18th century: "When the water of wells or brooks is found loaded with mud, the following expeditious method of filtration, described by Dr. Lind, has been practiced with success: 'Let a quantity of clear sand or gravel be put into a barrel placed on one end without the head so as to fill one-half or more of it and let another barrel, with both ends knocked out, of a much smaller size, be placed erect in the middle of it and almost filled with sand or gravel. If the impure water be poured into the small barrel or cylinder, it will rise up through the sand of the larger one in the interval between it and the small one.'" In this description, we can see, without a great stretch of the imagination, the germs of the construction of a modern well or of the present method of sand filtration, if not of the Pasteur-Chamberland candle. Again, with regard to aëration, Blane says: "Such is the attraction of the air for this offensive matter that the water need only be brought thoroughly in contact with it to be rendered quite sweet." Then he describes an apparatus invented by a Lieutenant Osbridge. With this apparatus the water in the cask was raised a few feet and allowed to fall through several sheets of tin plates perforated like "colanders" and placed horizontally. Blane speaks of it as "a machine very deservedly in common use and the working of it is a modern and salutary exercise to men in fair weather." Thus we may take it for granted that, besides filtration, these old sea sanitarians knew well the effects of aëration as far back as 1750.

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[4] Rochard and Bodet: "Traité d'Hygiene Navale," etc., Paris, 1896, p. 405.

[5] Lefevre: These de Paris, 1869.

[6] Letter: See also Journal Franklin Institute for 1872.

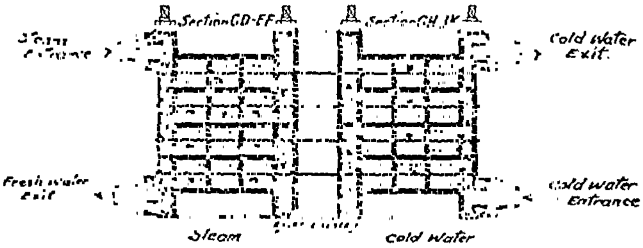

Fig. 3.—Pape and Henneberg condensor.

At that time the water they had to deal with was presumably full of decaying organic matter. These old wooden casks were indeed nothing more nor less than what we now conceive to be septic tanks and in the conditions under which these tanks were kept, down in the bottom of the ship, dark, damp and mouldy places, poorly, if at all, ventilated, the anaërobes must have led an ideal existence. Consequently, aëration produced an improvement almost startling.

DISTILLATION OF WATER.

Among all the numerous water correctives, distillation requires a special treatment, on account of the large and important part which it always played in connection with the water supply on shipboard. It is now well recognized that at least one of the reasons why distilling of sea water did not become more quickly popular than it did, was the firm belief entertained at that time—and still entertained by some of the present day—although for better reasons than of old, that something had to be added to it before distilling was begun, so as to "remove the spirit of salt." It was perfectly well known to Dr. Lind and to his sympathizing contemporaries, however, that the distilling could be done without adding anything to the sea water to begin with. Says Lind:[7] "In 1761, I had publicly demonstrated by various experiments at the Royal Academy at Portsmouth, that a simple distillation rendered sea water perfectly fresh, pure and wholesome. These experiments were made in the presence of Mr. Hughes, resident commissioner of the navy at that port, and of Mr. Robertson, late master of that academy. In the month of May, 1762, an account of this discovery was read at a numerous meeting of the Royal Society in London; in March, 1763, the second edition of my essay on preserving seamen, containing this discovery, was published in London, by the authority of the Lords Commissioners of the Admiralty; which honor their lordships were pleased to confer on account of this important discovery."

Hauton, in 1670, is said to have recommended caustic alkali for the purpose of destroying the bituminous matter. Appleby, in 1734, published his procedure by order of the English admiralty, in which he extolled the virtues of caustics and calcined bones. Butler employed soapsuds. Walcot added antimonial preparations, while still others wanted to let the water putrefy before beginning its distillation. Lastly, Perrinet, in more recent times proposed the addition of manganese and charcoal in the proportion of 1:5000.

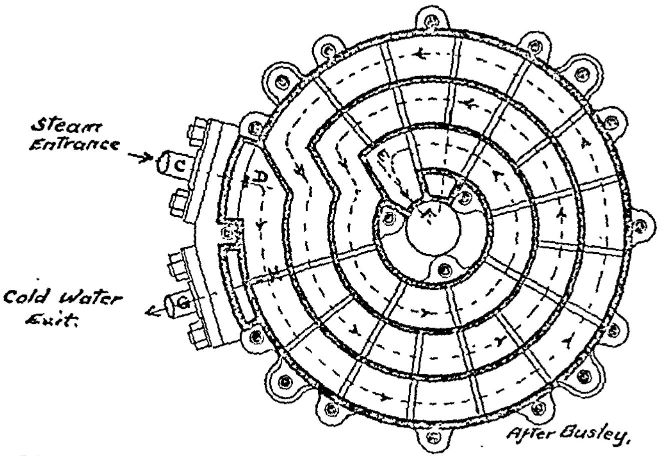

Fig. 4.—Pape and Henneberg apparatus, showing tubular arrangement of condensor.

While, then, the credit of having been the first to suggest and to carry out distillation of pure water from sea water is claimed by several individuals, it may be said that distilling did not come into general use before 1761, when Dr. Lind was fortunate enough to discover that sea water simply distilled, without the addition of any ingredient, afforded a water as pure and wholesome as that obtained from the best springs.

Even the discovery of the learned Dr. Stephen Hales[8] did not find general favor at that time, although received with considerable enthusiasm by some; so that, distilling may be said to have begun in earnest from the time when Dr. Lind's discovery became generally known. The earliest attempts at distillation were clearly not successful. According to Lefèvre[9] it was Gauthier of Nantes who constructed a distilling apparatus as early as 1717 and Dove and Hoffmann constructed one in 1765. Both these were rejected on account of being too cumbersome. The rudest kind of contrivances were at first devised. The stills in Blane's time, employed on English ships, are described as consisting merely of a "head and worm" adapted to the common boiler, and in which distilling was done, while the food was being cooked. More than eight gallons of excellent fresh water were said to have come off in one hour from the copper of the smallest ship of war.

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[7] An essay on diseases incident to Europeans in hot climates. Philadelphia, 1811, p. 242.

[8] Stephen Hales, D.D., F.R.S.: "An Account of a Useful Discovery to Distill Double the Usual quantity of Seawater by Blowing Showers of Air up Through the Distilling Liquor." London, 1756.

An extemporized distiller by Dr. Lind is described as consisting of a tea kettle with the handle taken off, and inverted on the boiler, with a gun barrel adapted to the spout, passing through a barrel of water by way of "refrigeratory" or kept constantly moist with a mop. In 1763, Dr. Poissonier devised a distiller that could be adapted to the ship's kitchen and about the same time Irving in England devised a similar apparatus, both of which were received with great enthusiasm at the time.

The progress which the introduction of distillers made in the early part of the 19th century was destined to receive one more brief check. In 1817, Sage, in an impressive memoir, strongly protested against the general introduction of the distillers of Poissonier and Desormes into ships, claiming that distilled water was dangerous and demanding that new experiments be made before installing these distillers. To judge by what followed the publication of this memoir, it must have made a deep and widespread impression; it also indicates the general importance attached to the whole subject at the time. A series of experiments were at once begun on convicts. Water from the ports of Brest, Toulon and Rochefort was distilled and 41 convicts made to drink none but distilled water for a whole month. Behold! their health was found not to suffer in the least as a consequence of the water they drank. A captain and several other commissioned officers drank of the same water without injury to their health. After these experiments, the question raised by Mr. Sage of the existence of a poisonous "alkalino-oleagino-neptunien gas," according to Lefèvre, was finally decided against him. The end of this controversy was likewise the beginning of improved distillers for use in ships.

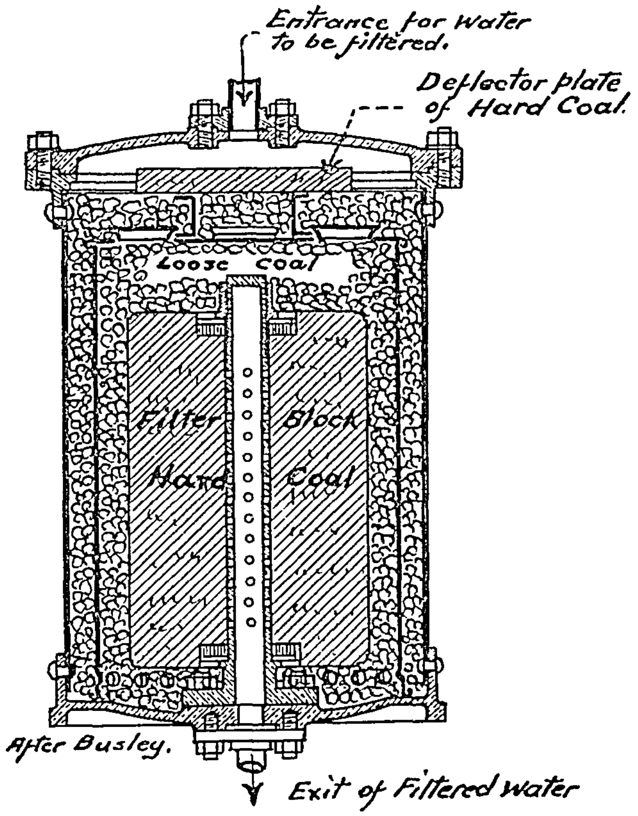
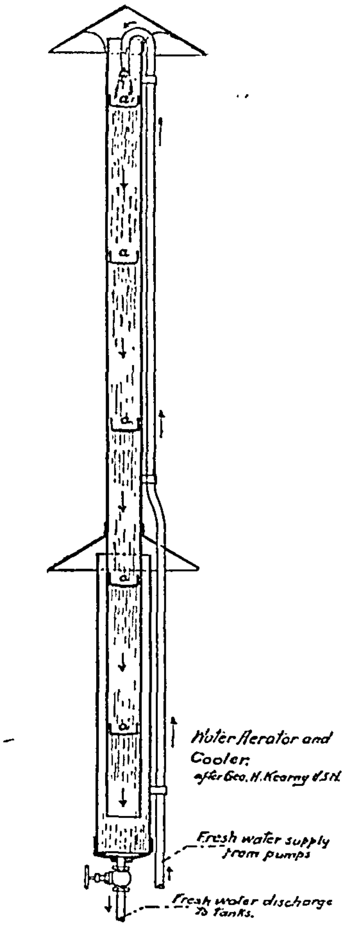


Fig. 5.—A filter of the best pattern showing how the water enters and is at once deflected by a carbon plate over loose pieces of carbon.

The distilling kettles consisted of quadrangular cases made of sheet iron, their interior being divided into three compartments by two horizontal partitions. The lower compartment was the hearth or furnace, the middle compartment contained the sea water to be boiled and distilled and the upper compartment was the place where the food was cooked by the steam generated below. Such a distilling kettle was surrounded on the sides by refrigerators through which ran a spiral pipe in which the steam was condensed.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a
Water Aerator and Cooler.
after Geo. H. Kearny U.S.N.
Fresh water supply from pumps
Fresh water discharge to tanks.

Fig. 6.—Showing aërator constructed by Capt. G. H. Kearney. U. S. N.

It is easily seen that the quantity of water furnished by these distilling kitchens was small and barely gave the amount of water necessary for drinking purposes. The demand for larger quantities was soon supplied by larger as well as better distillers. How slow their general introduction was, into the U. S. Navy in particular, is best shown in the letter from Admiral Baird, already referred to, as well as in the account of an improved distilling apparatus given by him in the *Journal of the Franklin Institute* for 1870 and 1872. The first serious attempt in the construction of distillers for use in the U. S. Navy was begun by him in 1866 on the *Pensacola,* and in 1877-8, I made a cruise on a sloop of war under sail from San Francisco around Cape Horn to Washington, a journey of 112 days, without a distiller of any kind on board.

For a long time, it was steam from the main boilers that was condensed to furnish potable water. The arrangement was of the simplest kind. One of these boilers was tapped and the steam escaping through a spiral copper pipe was cooled to condensation as may be seen illustrated in principle in Fig. 1. Such water, as might be expected, was almost invariably laden with all the impurities, not only of the sea water, but also with those from the inside of the boiler itself, especially fatty acids, which imparted to the water its well known empyreumatic odor.

Special distillers of greatly improved pattern were made during the latter part of the last century. The most notable among these were the Cousin, the Weis and the Mouraille in France, the Normandy, in England, the Standard Evaporator in the United States and the Pape and Henneberg in Germany. The general principles in the construction of them all is as follows: The sea water is conducted into a special reservoir where it is heated by steam pipes connected with one of the boilers from the main engines. The steam in this arrangement does not mix with the salt water to be evaporated, providing everything is tight, but, after heating the sea water which surrounds these pipes, returns to the main boiler whence it came. The evaporated sea water is condensed in a special apparatus called the condensor (Fig. 2).

Since all the most essential changes and improvements in the present distillers have occurred in that part of it known as the condensor, I may here limit myself to describing what is at present believed to be the best and most economical one in use, namely, the one designed by Pape and Henneberg of Hamburg, Germany.

The Pape and Henneberg condensor (Figs. 3 and 4) consists in a number of flat elements, each one of which is divided into two by a central partition on each side of which the spaces are arranged spirally. The cold water entered from below runs from the circumference to the center of the lower spiral chamber of the lowest element. Thence it rises through an opening in the separating plate up into the lower spiral chamber of the second element, through which it passes from the center to the periphery. From here it proceeds to the lower chamber of the third element and so on until at last it makes its exit from the lower chamber of the upper element. The steam to be condensed, entering above, takes the opposite course, running through the upper spiral chambers of each element in succession, giving off its heat to the cold water, through the thin copper plates (dividing the two chambers), until it issues as water below. The process of the steam's parting with its heat is further favored by the chamber's floors being traversed by ribs, which arrangement causes the steam, as well as the water, to be constantly stirred. It is stated by Busley[9] that the caloric effect of these condensors is almost from eight to nine times as great as that of the ordinary tubular surface condensors. Thus in a condensor of four plates and a cooling surface of 0.56 square meter, the hourly product per square meter surface, is the conversion of 270 Kg. of steam of 116.290 C. into water of 13.60 C. in which is only 2.9 C. warmer than the water used for cooling purposes. (Figs. 3, 4 and 5.)

AERATION AND FILTRATION.

In some of the smaller gunboats and other naval vessels that are unprovided with the refrigeration plant and have but a small tank capacity, it often happens that the distilled water does not remain in the tanks long enough to get cool and the drinking water must be consumed while yet warm. This is especially often the case in tropical climates, just where a cool and refreshing drink of water is most gratefully appreciated. Under such conditions aërators are very desirable.

Figure 6 is intended to show an aërator constructed by Chief Engineer (now Captain) George H. Kearny, U. S. N., according to my ideas, and later, much improved by him installed on board the U. S. S. *Marblehead.* A small pump takes the water from the distiller to the top of the tower where the water drops in succession through a series of perforated copper discs, and, in this manner, becomes cool and aërated. At the bottom, the tower opened into a larger receptacle which served as a reservoir and from which the water was sent either into the tanks or into the scuttle-butt. This aërator did excellent work both as regards aëration and cooling. On board the *Yantic* the men spoke affectionately of their water tower, but my sudden detachment from the ship did not give me time to make the observations I had planned to. The illustration here shown lacks the double cylinder which was intended for the aërator to be installed on board the U. S. *Yantic.* There was to be an air chamber between the inner cylinder through which the water descended and the outer cylinder, to protect the water from the heat of the sun. The openings through which air was admitted to the tower were protected, moreover, by several layers of flannel to remove the dust from the entering air; this also is not shown in the figures.

How carelessly, in former times, some of these aërators were made and used is shown by an incident in my experience in 1890. Shortly after reporting for duty as medical officer of the U. S. S. *Yantic,* in 1890, the unusually large sick list and the nature of the complaints led me to examine the drinking water. This was found to contain organic matter and chlorids in large amounts. The commanding officer insisted that the water was distilled and could not be the cause of the illness. The trouble, however, was promptly traced to the aërator.

The aërator in use at that time consisted of a wooden box about 6 ft. long, 1½ ft. high on one side and ½ ft. wide. The box stood on deck with one of its sides against the engine room hatch; the distilled water entered at one end and passed out at the other, presumably cooled and aërated. When the men were washing the decks, which was done with salt water drawn up in buckets from over the side of the ship, dashing the salt water along the deck, large amounts of it were thrown into the aërator. When it was realized that the *Yantic* was at that time alongside the wharf in the navy yard of New York near the Simpson Dry Dock within 20 ft. of a large privy and urinal, not to speak of the sewers of Brooklyn, no more proof was needed. Suffice it to say that one demonstration of this kind convinced the commanding officer that this aërator was the efficient cause of both the bad water and the sick list and the antiquated piece of apparatus was abolished and the one, described above, put in.

Air injectors and carbon filters were at one time thought to be necessary parts of distillers. The air injectors were usually interposed between the evaporator and the condensor into which latter the air was introduced while the filter was placed between the condensor and the water tank. These injectors seem never to have made good their claims. With the latest distilling apparatus an oily taste in the water can be avoided and the filters of any kind do not seem to remove that taste when present; with our increased experience and knowledge of the means of distilling sea water in ships, even the carbon filter will probably soon be discarded altogether and pass out of use.

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[9] Busley, C.: Die gesundheitlichen Einrichtungen der modernen Dampfschiffe, Berlin, 1897.

Figure 5 shows one of these filters of the very best pattern. Here the water enters above and, being at once deflected by the carbon plate over the loose pieces of carbon, is distributed through the outer chamber; from here it passes into the inner one and after traversing the inner chamber and the solid carbon block, it runs directly into the tank through the ordinary pipe connections, awaiting its further distribution to convenient places by small steam pumps. The Chamberland filter, after but a trip trial on board ship was given up as impracticable.

According to Plumert[10] the one filter possessing the greatest advantages and the least disadvantages for ship's use, is the micro-membrane filter of Kregor of Vienna. Such a filter is said to furnish 500 liters an hour. But the problem at present before us is to provide such a water by distillation on board ships that does not need to be filtered and, such a water can now be furnished with our present distillers when these are properly managed.

Thus, our experience with peripheral filtration on board ships has resulted similarly to that on shore. The observations of Hesse and Plagge, those of Woodhead and Wood and of Freudenreich and Schöfer have shown that peripheral filtration is, to say the least, not absolutely trustworthy. According to Frankland, Woodhead and others, it was shown that charcoal especially adds to, rather than detracts from, the number of germs after it has been used for some time. This is exactly the general experience with such filters on shipboard; and when the injectors had poured volumes of dust into them, such filters proved to be veritable culture media for germs. All these objections become, of course, accentuated in the tropics.

In a recent article by Le Méhauté,[11] that author wants the air injector to be abolished because of being both useless and dangerous; useless, because the water may be trusted to aërate itself; and dangerous, because the injected air introduces myriads of germs, the nature of which cannot be controlled, although granting that for the most part they consist of non-pathogenic saprophytes. Le Méhauté, moreover, deems the carbon filter superfluous. At one time, says he, it answered a purpose; namely, that of removing particles of lead and greasy matter. Now, since these dangers no longer exist, the filter has become unnecessary.

(To be continued.)

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[10] Dr. Arthur Plumert: Gesundheitspflege auf Kriegschiffen. 1900.

[11] L'eau potable a bord. Arch. de Med. Navale, 1904, Nos. 9 and 10.

Arthritis Deformans.—A characteristic deformity of the foot, says Billings, is a permanent hyperextension of the proximal phalanges, with flexion of the distal bones of the toes. The distal ends of the metatarsals become prominent and tender and make the foot tender, and walking painful and awkward. In most cases, says McCrae, the glands near the affected joints are enlarged. Heberden's nodes, at the terminal phalangeal joints of the fingers, may occur alone or with involvement of the larger joints. The joint (or joints) once attacked seldom clears up suddenly, and the disease, unlike acute articular rheumatism, rarely shifts from joint to joint. The pulse is nearly always above normal. There is rapid muscular atrophy and exaggeration of reflexes. Chronicity is very suspicious of this disease. A highly nutritious diet, arsenic and syrup of iodid of iron are chiefly indicated.—*Denver Medical Times.*

PRESENT DAY METHODS OF CONDUCTING LABOR CASES AND THE RESULTS OBTAINED.*

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I selected this subject for presentation before this section because of the great interest obstetric work holds for me among the several branches of medicine with which I am familiar, and because of the gratifying results I have obtained in this line of work.

I have not attempted a critical review of either ancient or modern obstetric methods, but have made the body of this paper a report of my technic of delivery, an analysis of a series of cases which have occurred in my private practice and some few other cases seen in consultation.

Among the splendid activities by which tireless science keeps mankind ever moving forward, it is not often that the obstetrician claims public attention by sensational discoveries or achievements; yet in the broad domain of human progress there has been no more distinct or radical advancement than in that field which calls for the highest resources of both the great branches of medicine.

It is interesting to note in passing that while at one time some disposition was shown to include or to absorb this study under the term of gynecology, there are institutions and professors, among the most learned and eminent, that insist on calling it by the old name of midwifery, although this term bears little more relation to what the science has become than the spiral white and red ribbon of the barber's pole does to the surgery, or rather to the phlebotomy, that the "tonsorial artist" now practices without an anesthetic.

It is within the lifetime of those who would not like to be classed among the aged that the observant Semmelweiss decided that all students assisting in the lying-in wards of his Vienna maternity hospital must wash their hands in a "disinfecting" solution of chlorid of lime, and thus within a year obtained a conclusive demonstration of the truth of his theory in the notable lessening of mortality (which had been as much as 30 per cent. or more in some months) among the puerperal patients of the institution.

The question often asked in regard to corelative subjects recurs when we perceive how apparently meager were the resources of our progenitors in the matters of midwifery. How did they get along without the skill and knowledge which the modern practitioner now has the opportunity to acquire? Putting aside the more or less untrustworthy and fantastic excerpts gathered from the Chinese medical writings ascribed to a period of five thousand years ago, we have the Ebers papyrus as the probably oldest authentic medical writing extant. In that document, written fifteen and a half centuries before Christ, there is next to nothing given for enlightenment or help in labor cases, and more than one thousand years later we find the Father of Medicine correspondingly silent in the Hippocratic writings, except in one instance.

There is historic warrant, however, for the presumption that, somehow or other, the increase and multiplication of the human race went forward along the ages in accordance with the Divine command, notwithstanding the absence of professional advice, direction and assistance. Incredible as it seems in our day, it was late in the sixteenth century, when royalty set the fashion of having court surgeons attend parturient ladies, that midwifery began to make strides in scientific advancement Before that time, as Simpson observes, "Physicians and surgeons had been summoned to the lying-in room only by midwives who found themselves at the end of their resources, to give help in difficult cases, when the child was usually dead and the mother moribund."

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association at the Fifty-sixth Annual Session, July, 1905.

I regret that this paper may be open to suspicion of indelicacy as to its implication of egotism, but I feel that to this I only need to enter a simple disclaimer. Though still classable as a junior practitioner, I have had within a period covering some seven years in private practice 207 confinement cases, not only without a fatal issue to either mother or child, but without, as yet, a single development of any of the forms of grave puerperal troubles which eventually beset every obstetrician, such as sepsis, hemorrhage, eclampsia, severe laceration, etc.

I am glad to believe that there are many of my colleagues who could make the same satisfactory report, but I know on the other hand results have been different with many others. This latter fact is at once my apology and warrant for this paper.

In The Journal of the American Medical Association, April 15, 1905, occurs the following abstract from a paper by Dr. Lea,[1] and in order to economize time I will let the abstract of Dr. Lea's report stand as typical for this paper.

> The method of treatment adopted by Lea is based on 120 cases. He says a rise of temperature to 101 F., not accounted for by other causes, renders a careful examination of the generative tract necessary. If no sufficient cause is found in the vagina or perineum, and if the uterus is bulky and tender, a specimen of the lochia is removed and a uterine douche given, with due precautions. In 48 consecutive cases this was sufficient in 30 per cent. to bring down the temperature rapidly to normal. For some years Lea has supplemented this by careful swabbing of the interior of the uterus with absorbent wool soaked in a solution of biniodid of mercury in alcohol, 1 in 2,000. If this procedure is inefficient, or if the infection is severe, from the first, the uterus is explored with the fingers, preferably under chloroform anesthesia. If the cavity is perfectly smooth, showing an absence of retained products or of decidua—a condition which is rare—the uterus should be thoroughly swabbed out with the biniodid or some strong antiseptic solution, and packed with iodoform gauze soaked in an antiseptic. If a piece of placenta is found this should be removed, followed by swabbing and gauze packing. If the cavity is large and the surface irregular, due to hypertrophied and necrotic decidua, the patient's safety can only be insured by its complete removal. This is most efficiently done by the use of a suitable curette. Vaginal section may be done as supplementary to curettage if symptoms of pelvic peritonitis are present. If the uterus contains placenta or débris, accompanied by grave infection, hysterectomy is much more dangerous than curettage, and packing should never be done. The best results from hysterectomy have been obtained in cases of periuterine suppuration, gangrene of the uterus, or necrotic myomata.

Here are statistics, advice and methods of procedure that to me are appalling. While my obstetric experience besides Dr. Lea's is, of course, lilliputian, I am sure that had I made digital examinations and had given uterine douches to my puerperal patients whose temperatures had gone to 101 F. and over, I certainly would have had infected cases about which to compile statistics.

I have followed this rule in labor cases: Let nature do as much as possible in these cases and only do that for the patient that nature seems unable to do. Briefly, my conduct of a labor case has been to insist as far as possible that everything should be scrupulously clean about the lying-in room as regards dressings, instruments, utensils, bed linens, etc., to make no vaginal examinations unless the external parts have first been cleansed with soap and water, to swab out the vagina with a gauze sponge, and thoroughly to coat the finger nails and hand with soap, after washing them and rinsing them in ether; to deliver all patients in the dorsal position, to support the head and perineum by a modification of Merkerttschiantz's method, which reduces lacerations to a minimum, and, what I deem most important, to have the fundus of the uterus grasped before the presenting part is born, and firmly held until the child is delivered and the cord tied. This procedure, I am convinced, has prevented in my practice a single post-partum hemorrhage of either great or small degree, and has facilitated the delivery of the placenta in the great majority of cases in from one to three minutes after the cord has been tied. In addition to the above routine, no douches, vaginal or uterine, were given to any cases, either before or after labor.

Where a vaginal or perineal tear occurred, and was sewed, the apposed edges of the wound were carefully swabbed once to twice daily for the first few days with a cotton or gauze sponge to remove the exudate. I have deemed the vaginal and uterine douche of as questionable value in labor cases, as I found it to be in abdominal surgery, and have therefore to date tabooed it absolutely, and I believe that I have obtained results which sustain my radical views in this respect, for I have believed that more infective matter may be put into the vagina and uterus by the douche than the flushing will bring away.

The several patients known or supposed to have had a recent gonorrhea I treated locally for some weeks before labor began by dilating the vaginal folds frequently and swabbing thoroughly and in a painstaking manner with a strong solution of one of the albuminates of silver. Although some rather severe lacerations have occurred, none has ever extended to or near the anus, and in no tear have more than two stitches been applied.

I am aware of three cases in which small pieces of placental mass were retained in the uterus, but for which nothing was done save to watch the condition of the patients. Two of the patients passed the placental fragments the day following delivery, but the third woman did not discharge the retained placental portion until the fifteenth day after her confinement, when she passed a mass of tissue as large as an egg, with an extremely foul odor. From the fourth day of her confinement the lochia had an offensive smell, and as the placental mass was known to be in the uterus the cause of the odor was known. As the woman's temperature never went above 100.3, nor her pulse above 94, I did not interfere in the case, for I believed that fermentation of the placental mass caused the odor, but the lack of abnormal temperature or pulse pointed to the absence of any extremely virulent bacilli; however, had I with a curette broken into the natural barrier of the uterine walls, I would not have been surprised if the woman had developed a severe or fatal sepsis.

Of forceps delivery I can say but little, having used these instruments but twice since leaving a maternity hospital service shortly after graduation, once in an R. O. P. and once on a primipara aged 39 years, with inertia.

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[1] "Some Remarks on Puerperal Infection": A. W. W. Lea, British Medical Journal, March 18, 1905.

Often it has been most embarrassing and annoying to find hour after hour slipping away and only slow progress being made, when the application of the forceps might have freed me from a long, tiresome wait, but the mother's condition, fortunately, has always warranted a delay, and I have thus refrained from using this mechanical aid which has done so much good for the puerperal woman, but which, if used, when not absolutely called for, has entailed serious injury to mother and baby and sometimes has caused the death of both.

I am sure that if a longer time were given the patient in labor in which to allow normal progress to be made and simple manual aid given the mother during the pains, statistics of puerperal lacerations, sepsis and death would show a marked decline.

Complications in my series of cases were surprisingly few. In one case seen first at term, I extracted a five-inch section of an olivary tipped bougie, forced into the body of the womb four months before in an unsuccessful attempt to bring on a miscarriage. The woman made an uneventful recovery.

One woman was delivered during the second week of a severe attack of typhoid fever, labor being hastened by the approaching crisis of the disease. The child was as healthy as most babies are at birth and the mother stood the shock well; when the child was five weeks old the mother insisted that she was strong enough to give the baby breast nourishment, artificial feeding having been employed in the meantime. The change was successful and the mother and child thrived. I was unable to get a positive Widal reaction from the mother's milk on the baby's blood, although the mother's blood gave the positive Widal.

Another patient was confined on the fifth day of a lobar pneumonia with a temperature of 104, and pulse 140. Her fever fell to subnormal on the second day after labor, and although very ill for several weeks she recovered. The baby was fed from the bottle and did well.

The anomalies of the cord and placenta were the common ones described in obstetric text-books, and lack of time prevents their description.

In about three of the above series of cases the patients had fibroid uteri of a moderate degree and in one case I delivered a syphilitic woman of a full term macerated baby, dead probably a month, and a live baby of probably six months' development, which lived for three weeks. There were separate placentæ. The woman had been taking specific treatment for about six months previous to her delivery.

A deplorable case I saw in consultation. A woman had been in active labor for three days with an immense cancer of the cervix. Her physician insisted that her condition was due to a "rigid cystic os" and refused to allow any interference with the case, operative or otherwise. The woman died of exhaustion on the fifth day after repeated attempts of her physician to apply forceps through the cancerous mass.

The fact to which I would call particular attention is one which is, perhaps, oftenest a source of extreme danger, and is too seldom recognized and guarded against. It is this: Just as special circumstances may convert stomach, bladder or colon into a veritable septic center, the position assumed in bed by the greater number of puerperal patients almost inevitably improvises, as it were, just such a septic cavity quite susceptible of infection, for the more yielding the couch the greater will be the pocket formed, as the patient unwittingly burrows into the bed at the spot where least resistance conjoins with that of her greatest weight. In this depression septic fluids in the bed or stagnant in the vagina are an ever present source of danger to the open uterus with the cervix resting on the vaginal floor, making the entrance into the womb only too easy for infectious fluids. To obviate this I keep the patient's hips well raised from the bed during the whole course of labor, and the vagina is thus kept free from any return flow of liquids contaminated by contact with the pad or bed.

With the field of obstetrics expanded into or supplemented by the gynecology of the day, the ideal combination of physician and surgeon may now find in obstetrics opportunities virtually illimitable for the worthiest and most useful exercise of his talents and skill, for it embraces the whole scope of theory and practice affecting the health and lives of women and their offspring. Even the modest average practitioner, if of the proper grade of intelligence, may enter it with confidence. In either case, to repeat a trite, but never needless, suggestion, it will be found that "soap and water and a good hand brush," with all that this implies will be important essentials for success.

DISCUSSION.

Dr. W. A. Shannon, Seattle, declared that all obstetric cases should be treated like surgical cases, and the same precautions taken as in a surgical operation. Then there will be very little trouble with these cases. Dr. Shannon has for some time adopted the method of wearing rubber gloves during his obstetric work, believing it to be eminently proper. A physician is apt to be in a hurry to get away from the house and is likely to extract the placenta too early. He should wait at least twenty or thirty minutes after the birth of the child before expelling the placenta. The external genitals should be scrubbed thoroughly at the beginning of labor, shaving the parts, if necessary. The patient also should be prepared as if for the repair of a lacerated perineum.

Dr. J. A. McKenna said that he has tried rubber gloves and found them in the way and even risky, inasmuch as he could not control the perineum nor make proper traction on the cord while wearing them. He always expels the placenta, or attempts to, as soon as he ties the cord. If the nurse has grasped the uterus properly from above, the placenta will be ready to be expelled in 95 per cent. of the cases as soon as the physician is prepared to deliver it. Nor are the after pains so severe if the uterus is held and the cavities in which blood clots may develop not allowed to form.

SUPERIOR ACCESSORY THYROIDS.*

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Some writers call the accessory thyroids, "lingual goiter." The term "goiter" given to such affections is an improper one, since the histo-pathology shows that not all aberrant or accessory thyroids have the structure of a goiter, which implies a pathologic thyroid. In several instances the histology of the accessory gland was exactly the same as that of the normal thyroid.

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* This article was prepared to be read before the Section on Surgery and Anatomy of the American Medical Association at the Portland session, July, 1905, but the author was prevented by sickness from being present.

Perhaps, even the term "accessory" is not proper, since in some cases, as will be seen later, the so-called accessory thyroid was the only one of the individual. Aberrant thyroids would be the most satisfactory term, indicating a thyroid situated outside of the normal area. For the sake of convenience, however, I will respect the term "accessory" generally used in the description of these tumors. While anatomists, and even pathologists, are more or less familiar with the accessory thyroid, the clinician has rarely an opportunity to meet such tumors. On account of their very rare occurrence, and because of the grave and even fatal errors that might result from the lack of information concerning such tumors, the study of accessory thyroids must be of interest to every surgeon.

HISTORICAL.

Accessory thyroids were known to the old anatomists. Albert von Haller (1779) once saw an accessory thyroid occupying the middle of the thyroid cartilage, and not connected with the thyroid proper. In 1839 von Haller referred to accessory thyroids. Gruber[1] found the isthmus separated from the thyroid and located above it in 2 out of 40 cases. In 1853 Verneuil,[2] while dissecting the muscles of the tongue, found a sessile body the size of a pea situated between the geniohyoid and genioglossus. It proved to have the structure of a normal thyroid.

The accompanying table shows there are not more than 39 cases on record. The first ones were those of Hickman of England in 1868; of R. Wolf of Hamburg, and Bernays of the United States. The rarity of these tumors is also confirmed by the fact that standard textbooks, such as those of Mackenzie, Cohn, Ingals and Bosworth, make no reference to them.

In 1897 Chamisso de Boncourt[3] was able to collect 15 cases of accessory thyroids at the base of the tongue.[4]

EMBRYOLOGY.

The thyroid develops from three anlages, one median and two lateral (von Kölliker, Wölfler, His and Stieda). The median anlage originates, according to Born, from the epithelium of the pharynx, while the lateral ones develop from the epithelium of the fourth branchial cleft (Fig. 1).

The median anlage develops from that part of the sulcus arcuatus which is behind and close to the tuberculum impar (Fig. 1, A). The sulcus arcuatus is the groove situated between the tissue which will become later the epiglottis, and the tuberculum impar, which will become later the tongue. The epithelium of the median anlage becomes thickened, it sinks deeper during the elongation of the neck of the embryo and becomes in this way distant from the inner surface of the pharyngeal opening, with which it is connected by a "slender, hollow pedicle" (Minot), the ductus thyreoglossus. The opening of this duct on the dorsum of the tongue corresponds to the foramen cecum (Fig. 1, B, Fig. 2, 1).

His[5] has found in embryos of from 7 to 7.5 mm. that the thyroid is composed of a small bilobed vesicle projecting a pedicle toward the surface of the tongue. In the seventh week of intrauterine life, the three anlages fuse together (Minot).

At eight weeks the thyroid gland, according to Mueller, is composed of two lateral lobes and a connecting isthmus. The glandular acini develop centrifugally, and, according to His, their development begins in the human embryo at eight weeks.

According to Mueller, at eight weeks the gland is composed of cylindrical tubes only, 0.014 mm. in diameter. Kölliker admits the existence of glandular vesicles besides.

After twelve weeks Kölliker found vesicles of 0.03-0.11 mm. The glandular cells commence to secrete between the sixth and eighth weeks of intrauterine life (Horsley). Podack, however, found developed follicles with cylindrical epithelium and colloid material much later (five-months fetus). A remarkable feature in the embryology of the thyroid is the richness in vessels in all of the embryos.

THYROGLOSSAL DUCT (FIG. 2.)

According to Butlin and Spencer,[6] the word "tract" should be substituted for that of duct, since "there is no evidence of the existence of a duct in any living animal, either during embryonic or later life."

At the end of the tract there is a depression one centimeter in depth, called foramen cecum, first described by Morgagni and afterward by Bochdalek. This is characteristic of man; it has not been found in other mammals, not even in monkeys. According to Butlin and Spencer, the dissected sinus in the Royal College of Surgeons (physiologic series, 1,526 B). may be a simple [illegible] yroglossal duct or tract connects the thyroid isthmus with the apex of the lingual V. On the level of the hyoid bone the duct is connected with the bone itself, periosteum in front, and with the thyrohyoid bursa behind. The thyroglossal duct was first studied by His in human embryos. Kanthack denied the existence of such a duct, since he could not find it in 100 adult tongues nor in 60 fetal and children's tongues. Kanthack, probably, searched for the duct at a late period, when every trace of the existence of such a duct was lost. Cysts lined by ciliated epithelium, however, tumors having the structure of a thyroid situated between the middle lobe and the foramen cecum, sustain the existence of such a duct. Embryologic remnants of the middle anlages are also found in animals, and may be displaced downward. Wölfler found in dogs, and Van Bemmelen and Meuron in embryos of sharks, batrachians and lizards, small glandular masses immediately above the arch of the aorta. They are called "aortic glands" and are embryonic remnants of the middle lobe. In man the corresponding remnants are always situated above the normal thyroid, never below. The existence of the embryonic thyroglossal tract can not be denied since a case of congenital accessory thyroid causing asphyxia is on record.

PHYSIOLOGY OF THE THYROID GLAND.

I will not go much into details concerning the physiology of the thyroid gland. Various functions have been ascribed to it, so numerous, so different, that it would require a special article to enumerate them. From clinical and experimental observations, we know to-day that the thyroid is an organ with internal secretion, its products destroying toxic metabolic substances, which normally accumulate in the blood. The ablation of the thyroid gland is followed by nervous and metabolic derangements. Astley Cooper and Rapp were the first to remove thyroids in animals. The former observed that after the extirpation of the thyroid the animal becomes sick and stupid. The latest experimenters have invariably observed that the removal of the thyroid is followed by tetany or cachexia, both equally fatal. In solitary cases where the animals remain healthy after the removal of the thyroid, von Eiselsberg assumes that, in all probability, the salivary gland was removed instead of the thyroid, or that the thyroid was only partially extirpated; or, as I believe, that accessory thyroids have taken the function of the true thyroid. Extirpation of half a thyroid is not followed by tetany. If a part of the other half is extirpated, however, tetany may occur. How much thyroid should be left in order not to compromise the function of the gland, is difficult to say. In some cases very little glandular tissue proves to be efficient; then again a large mass of gland fails to perform the function sufficiently. The glandular mass left after a partial extirpation of the thyroid is subject to ulterior macroscopic and microscopic changes. The gland left generally becomes hypertrophic.

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[1] Gruber: "Ueber die gland thyroidea accessoria," Virchow's Archiv, vol. lxvi, pp. 447-454.

[2] Verneuil: Archives générales de médecine, 1853, p. 464.

[3] Chamisso de Boncourt: Deutsche Zeitschr. f. Chir., vol. xix, 1897.

[4] Those who are interested in the literature of the subject are referred to the following: Deutsche Zeitschrift f. Chir., vol. xix, 1897; Deutsche Chirurgie (Pitha-Billroth), vol. ii: Monograph "Schilddrüse," Von Eiselsberg; "Diseases of the Tongue," Butlin and Spencer; Annals of Surgery, Sept., 1904, p. 323.

[5] His: Anatomie Menschlicher Embryonen, iii, p. 64-81.

[6] Butlin and Spencer: "Diseases of the Tongue," p. 4.

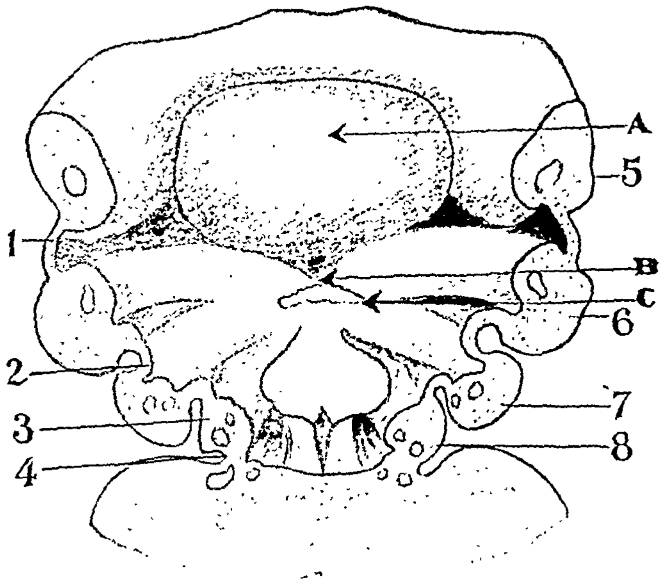

Fig. 1. Vertical section through pharynx of a human embryo of 10 mm. 1, 2, 3, 4, bronchial clefts; 5, 6, 7, 8, bronchial arches. A, tuberculum impar, forming front portion of tongue; B, foramen cecum; C, Anlage of thyroid gland. (After His. Reproduced from Annals of Surgery, September, 1904, page 322, Henry A. Storrs).

PHYSIOLOGY OF ACCESSORY THYROIDS.

In many instances, it is presumed, the accessory thyroid supplements or takes the function of the normal thyroid. Our supposition is supported by experiments. Von Eiselsberg[7] refers to a goat which did not develop myxedema after removal of the normal thyroid. He adds that the goat had an accessory thyroid. Another goat of the same parentage, not possessing an accessory thyroid, developed pronounced myxedema after the removal of the normal thyroid. Recently, I have extirpated the thyroid of a goat, for the purpose of studying the "compensatory changes"—if any—in various organs. The tissues removed had, histologically, the structure of normal thyroid. To my great surprise, the thyreoidectomized goat is in excellent health, and has not developed myxedema. I have not acertained, as yet, whether the goat possesses accessory thyroids. In some cases, however, the presence of an accessory thyroid failed to prevent the recurrence of myxedema when the thyroid was removed.

PHYSIOLOGIC COMPENSATION.

In some instances the removal of the thyroid was followed by hypertrophy of the pituitary body. Some physiologists believe this is compensatory. Other organs, as for instance, spleen and thymus, enlarge after the removal of the thyroid, but whether there is any relationship between the ablation of the thyroid and the hypertrophy of these organs, or in other words, whether these organs make a compensatory attempt, it is difficult to say.

CLASSIFICATION.

To begin with, accessory thyroids are classified as (a) true and (b) false. True accessory or aberrant thyroids are those not connected with the tissue of the thyroid proper. False thyroids are considered those which are found within some distance of the normal thyroid but connected with the gland. Offshoots of the isthmus, the unusually long pyramid, may be considered as a false accessory thyroid. Baurowiez[8] says that the intratracheal and intralaryngeal accessory thyroids are offshoots of the normal gland.

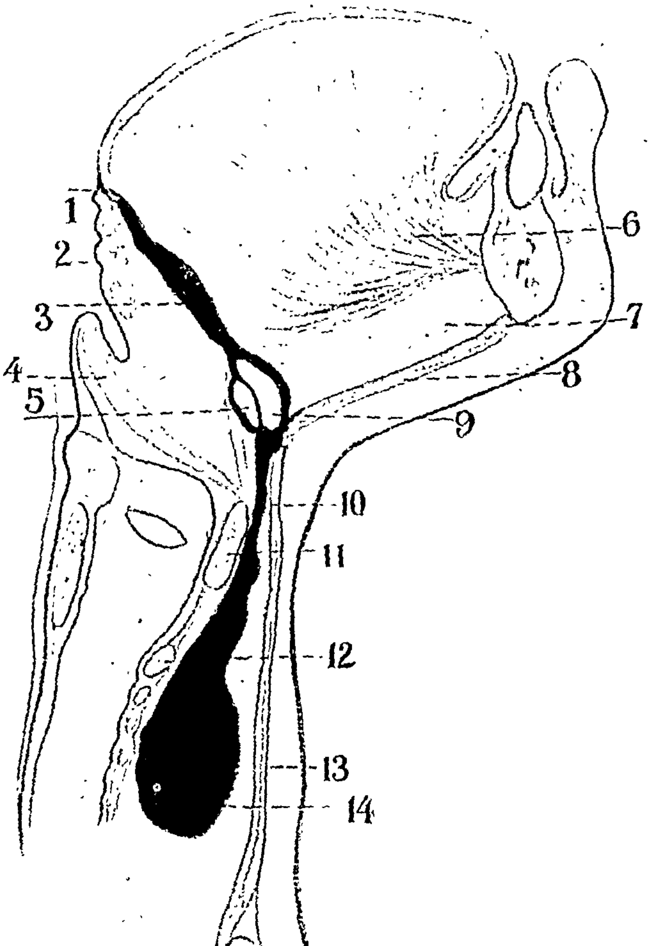

Fig. 2. Diagram of thyroglossal tract and its relations. (Taken from "Diseases of the Tongue," Butlin and Spencer). 1, foramen cecum; 2, lingual tonsil; 3, thyroglossal tract above hyoid bone; 4, epiglottis; 5, thyrohyoid bursa; 6, geniohyoglossus muscle; 7, geniothyoid muscle; 8, mylohyoid muscle; 9, hyoid bone, 10, thyroglossal tract in front of thyrohyoid ligament; 11, thyroid cartilage; 12, cricoid cartilage; 13, sternohyoid raphé; 14, isthmus of thyroid gland.

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[7] Von Eiselsberg: Deutsche Chirurgie, "Schilddrüse."

[8] Baurowiez: Arch. f. Laryng., vol. viii, p. 2.

Several classifications have been given with very little variation. Madelung classifies them as superior, inferior, posterior, anterior, lateral, endolaryngeal and endotracheal. The hyoid is the dividing line between the superior and inferior accessory thyroids.

Streckeisen[9] classifies the tumors in the region of the hyoid bone as follows:

a. Glandulæ præhyoideæ, in front of the mylohyoid and hyoid bone.

b. Glandulæ suprahyoideæ, small nodules above the attachment of the mylohyoid muscle.

c. Glandulæ epihyoideæ, between the hyoid bone and the foramen cecum.

In this paper I will deal only with accessory thyroids between the hyoid and the foramen cecum; in other words, along the original course of the thyroglossal duct, in the middle line. The superior accessory thyroids situated to either side of that line will not be considered.

LOCATION AND TOPOGRAPHY.

The distribution of accessory thyroids is very wide. The field in which they may be found can be roughly represented by an inverted trapezoid, the larger base being a line running from one apex of the mastoid process to the other; the smaller base is a line tangential to the arch of the aorta, and the sides are the two sternomastoid muscles. Accessory thyroids have been described outside of the area above mentioned. Osler, for instance, mentions them in the pleura. They have been found in the bones, the abdominal cavity and in various organs also. Such tumors must be considered as decidedly metastatic. The occurrence of accessory thyroids is embryologically explained when they are found in the area above mentioned.

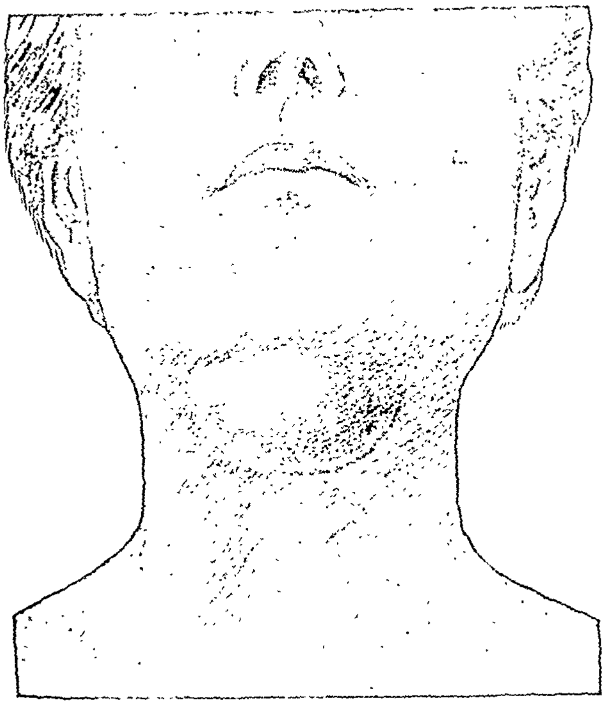

Fig. 3.—Author's case. Tumor projecting in the submental region.

Eberth[10] found small nodules in the lungs of a dog which he considered as metastases traveling along the pulmonary arteries and veins (in other words, hematogenous metastases). Neumann[11] extirpated a tumor the size of an apple situated in the region of the elbow. It had the structure of a thyroid and was considered by him to be a colloid sarcoma from the thyroid.

Tavel[12] mentions two interesting cases, one of struma metastatica of the pelvis, and the other of metastasis of the thyroid tissue in the parovarian region. Streckeisen found gland particles in the hyoid bone; according to him, the existence of these is explained by the inclusion of embryonic elements of the thyroglossal duct when the hyoid bone is cartilaginous.

K. S. De Graag[13] has referred to a case of struma with metastases in the bones. Patient had a swelling on the neck for eight years. Shortly before death he developed paraplegia. The postmortem revealed a carcinomatous tumor pressing on the spinal cord, containing follicles with colloid substance like the struma itself. It was a spinal metastasis of a malignant thyroid.

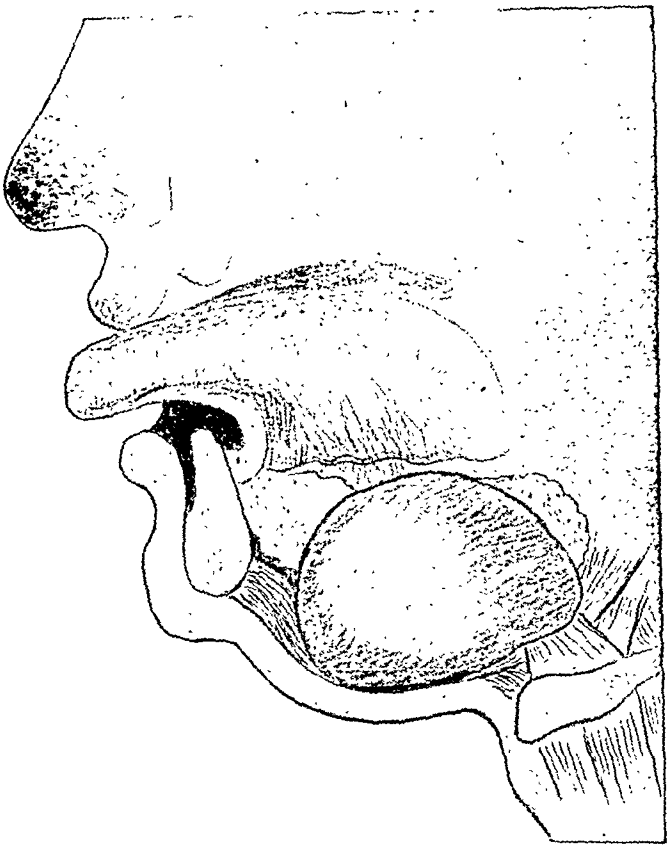

Fig. 4. Author's Case. Section, showing the position of a sublingual accessory thyroid.

I had a case[14] at Mercy Hospital of carcinoma of the thyroid with metastases in the sternum. A spontaneous fracture of the left femur occurred later, which was due to a carcinomatous metastasis from the primary carcinoma of the thyroid (Fig. 3). As I stated in the Year Book for 1903, the bones are the seats of election for secondary carcinoma of the thyroid gland, and should be suspected in all cases of malignant thyroid.

Bland-Sutton[15] refers to non-malignant metastases of the thyroid in the cranial bones.

When the malignancy of the thyroid proper can not be determined, however, we should bear in mind that simple adenomata which are considered as benign may show a malignant tendency and give metastases.

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[9] Streckeisen: Beiträge zur Morphologie der Schilddrüse, Virchow's Archiv, v. cliii.

[10] Eberth: Virchow's Archiv, vol. lv.

[11] Neumann: Langenbeck's Archiv., vol. xxiii.

[12] Tavel: Arch. Prov. de Chir., 1904, No. 5.

[13] K. S. DeGraaz: Mittheil. aus dem grenzgeb. der medizin u. Chir., 1903, ix, p. 625.

[14] Murphy, J. B.: Year Book, General Surgery, 1903.

[15] Bland-Sutton, Tumors, 1903.

ETIOLOGY.

Age.—Accessory thyroids manifest themselves at any age. They have been found in the new-born and in the aged. Hickman's case was a child 2 days old; while in the case of Staelin the tumor was found at a postmortem in a woman of 77. According to Onodi, they develop most frequently between 12 and 35 years of age.

Sex.—All writers have observed that these tumors occur mostly in women. The relationship between changes in the female genitalia and the thyroid has been noted (as illustrated in the frequent hyperplasias and degenerations of the thyroid at puberty, immediately following parturition, abortion and pathologic menopause). In the case of Shadle, during suppression of menstruation the accessory thyroid became more swollen and more vascular. We have no palpable explanation for this relationship, but venture to say the development of the accessory thyroid has something to do with the abnormalities of menstruation.

Occurrence.—Accessory thyroids have often been found in postmortems, and particularly in the morgues of countries where goiter is common. Pathologists have mentioned the occurrence of such tumors in the Tyrol. Streckeisen found many accessory thyroids in the pathologic institute at Basle.

Exciting Causes.—In most of the cases there is no palpable cause for the rapid development of the accessory thyroid. In a few cases, however, acute infectious diseases may be considered as an exciting cause. In Warren's patient grippe was considered its excitant; in Wolf's patient, whooping cough, and in several instances puberty was closely related to the development of these tumors.

PATHOLOGIC ANATOMY.

As we stated before, only the tumors situated along the thyroglossal tract will be considered. They are generally found at the base of the tongue, either elevating the organ by their size, or penetrating the muscles and forming an elevation on the dorsum. The size varies from a cherry to an egg, and may even attain that of a fist. The tumor is well encapsulated and is not surrounded by any inflammatory area; the color is a bluish red, which is due to the abundance of vessels. The surface is covered with a smooth, shining mucous membrane, the normal mucosa of the tongue. It is traversed by many vessels, not only on the surface, but even penetrating the tumor. The consistency is soft, and it is often difficult to decide whether one has to deal with a soft tumor or a cyst. Tumors at the base of the tongue are generally single; in Bernays' case, however, the tumor on the dorsum of the tongue was accompanied by another one immediately above the hyoid bone. The tumor may be movable if it is small, or immovable if it attains a great size. It is usually smooth, but it may be made irregular by the existence of small cysts. The contents of the cysts are generally colloid material; if the cyst is large and the vascularization great, the contents may be bloody.

As to the origin of these tumors, according to Butlin and Spencer, there are two theories:

a. They originate from the follicular glands situated on the dorsum of the tongue, or, it would be better to say, from the glands behind the circumvallate papillæ.

b. They are remnants of the thyroglossal tract.

The first theory was originated and is sustained only by Bowlby. I question the theory, as it would require a transmutation of cells both anatomic and physiologic. Such metamorphosis from squamous to columnar epithelium is very rare, even if at all possible. The second theory is supported by Bernays and Bland-Sutton, and by most of the writers who have described such tumors. This explanation is analogous to those referring to many other embryonic remnants.

Butlin considered these tumors at the beginning as *simple edenomata, but finally admitted that they were* products of embryonic thyroid remnants, and therefore true thyroids.

Some tumors show the structure of a normal thyroid, spaces lined by cubical epithelium and containing some colloid material. Some show the structure of a goiter, some contain embryonic tubules. In Kraske's case, the tubules contained a great many embryonic thyroid cells; in other cases we find cystic conditions.

The accessory thyroid may be encountered where a thyroid exists in the normal location. In several instances, however, the accessory thyroid was the only thyroid found. The accessory gland may undergo cystic degeneration and form large cysts extending from the hyoid bone to the foramen cecum, or it may become malignant; or be, to all appearance, benign and still malignant in its tendency, as is proved by its recurrence after removal and the production of metastases. We know, from Cohnheim, that adenoma gelatinosum of the thyroid, which is benign, may give metastasis.[16] It is also known that enchondromata and myxomata, which are generally benign, may run a malignant course. In 1883 Bryant described a cyst at the base of the tongue reaching the circumvallate papillæ of five months' standing in a girl of 18. It was lined with ciliated epithelium. Johnson describes a congenital cyst situated between the circumvallate papillæ and epiglottis, and lined by several layers of flattened epithelium. In young adults, regardless of sex, cysts situated below the mylohyoid may be found; they are small at first, but may reach the size of a mandarin orange (Liaras). As Durham showed in his researches, these cysts are also lined with ciliated epithelium and arise secondarily in thyroid tumors.

PERSONAL CASES.

Case 1.—Mrs. M. M., aged 34, admitted to Mercy Hospital April 12, 1905; operated on April 13.

Family History.—One grandmother had epithelioma of the lip. The other grandmother had carcinoma of the breast.

Personal History.—Patient menstruated at 15; it was regular, not painful; no intermenstrual discharge; the amount of menstrual fluid was usually large. Married at 25. Gave birth to five children under normal conditions; no abortions.

Previous Illnesses.—Negative.

Present Illness.—Fifteen years ago patient had a tumor at the base of the tongue. She was admitted at the time to the Presbyterian Hospital, Chicago. The condition was not diagnosed, but an attempt was made to operate on the tumor through the mouth. So profuse was the hemorrhage that the surgeon had to discontinue the operation. Following that attempt the patient improved, though the tumor did not disappear. She says of the accident during the operation, "I nearly bled to death." Five days after the operation the patient had a second hemorrhage. In the course of time the tumor did not cause very much inconvenience, with the exception of some mechanical irritation. Patient even states that the tumor reduced somewhat in size in the first six years after the surgical attempt. Nine years ago patient noticed below the old tumor a new one protruding in the submental region a little to the left of the median line (Fig. 3). No serious derangement was noticed. The tumor increased greatly in size until it reached its present dimensions, about those of a hen's egg (Fig. 4). No disturbances of mastication, deglutition or respiration were noticed by patient. General health very good; appetite fair. No gastrointestinal or genitourinary symptoms. No loss of weight or strength in the last fifteen years.

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[16] Virchow's Arch., vol. lxviii.

Operation.—The tumor was exposed by a longitudinal incision through the muscles, starting from the symphysis menti and extending down to the hyoid bone. The geniohyoid muscles were separated by retractors (Fig. 5). The tumor could be circumscribed by the finger and was enucleated without difficulty. There was no hemorrhage. The wound was closed in the usual way. The day following the operation, patient's temperature reached 101 degrees. On the sixth day there was primary union of the wound. On the ninth day there was some retention of serum and blood under the skin which necessitated a separation of the edges of the wound to allow their escape. No drain was inserted. The patient was discharged cured, April 22.

Case 2.—Mr. C. H., aged 45, farmer, was admitted to Mercy Hospital Jan. 30, 1901.

Family History.—Negative.

Personal History.—Patient was born in Germany and came to the United States when a boy. A man of good habits. Married at 18; had six children, all living and in perfect health.

Previous Illnesses.—In September, 1900, patient was kicked in the hypogastrium. The accident was followed by hematemesis and distension of the abdomen; elevation of temperature. Gradually recovered and was able to resume his work as before.

Present Illness.—Three weeks ago, while looking in his mouth through the mirror, he noticed a swelling at the base of the tongue and slightly to the left. From this time up to his entrance to the hospital, the patient did not have any pain nor discomfort. He had no difficulty of mastication, deglutition or respiration. Was operated on January 31.

The microscopic sections showed large glandular lumina filled with colloid material (Fig. 7).

SYMPTOMS, DIAGNOSIS, DIFFERENTIAL DIAGNOSIS.

The diagnosis of the accessory thyroid is very difficult. At first there are practically no symptoms; possibly the patient may have noticed the growth for some time, but may not have suffered any inconvenience from it. As soon as the tumor begins to enlarge, the patient complains of "lump in the throat." There is some difficulty in deglutition; salivation may be increased; some patients have a reflex dry cough not accompanied by expectoration. Most patients notice a change in the pitch of the voice; the voice may be either impaired or entirely changed. When the tumor attains a certain size patients complain of dyspnea, and if the epiglottis is pressed down, symptoms of suffocation may follow. Some patients notice from time to time an iron taste, due to the insignificant oozing of the tumor, or, in case of the rupture of a vessel, the patient may have from a moderate to a very severe hemorrhage. The absence of pulmonary physical signs, cough, expectoration and bacilli or that of gastric symptoms excludes hemoptysis or hematemesis. [illegible] are no constitutianl symptoms; anemia, however, may be present in those cases where oozing or hemorrhage has been present for some time. In Schadle's case there was a marked wasting and nervous exhaustion. The discovery of the tumor is generally a source of great mental anxiety to the patient. Many are of the opinion it must be a "cancer," and that an operation will involve the tongue.

Generally speaking, whenever a diagnosis of the true nature of a tumor of the neck is not well established, an accessory thyroid should be suspected (Hinterstoisser).[17] If a tumor is found at the base of the tongue or between the hyoid and the base of the tongue, in or near the middle line, if there is no inflammatory reaction around the tumor, if there are no marked subjective symptoms, and if it undergoes periodic variations in size and tension, if the patient be a woman, and especially one who complains of some disturbance of menstruation, the condition is highly suggestive of an accessory thyroid. The diagnosis may be greatly facilitated if, with the presence of such a tumor, we fail to find the thyroid in its normal location. The accessory thyroids are probably more frequent than is believed, judging from the number of recorded cases. They are generally not diagnosed until they become large, strumous, or until they cause alarming symptoms. I think it would be a good practice to administer in each case of suspected accessory thyroid, thyroid tablets. If it then diminishes in size, one could be certain that one's diagnosis was correct. Some surgeons have punctured or attempted to aspirate the contents, which appeared to them to be cysts. Such attempts have been very discouraging, since puncture is often followed by profuse hemorrhage. No fatalities have resulted; nevertheless, I believe such a procedure must be considered both useless and dangerous.

DIFFERENTIAL DIAGNOSIS.

After a tumor has been diagnosed at the base of the tongue, either by inspection, palpation or the use of the laryngoscope, if the tumor protrudes on the dorsum of the tongue, the first thought which occurs to the surgeon is whether it is malignant or benign. The absence of ulceration, the fact that the tumor is well circumscribed, even encapsuled, the absence of glandular enlargement, of constitutional symptoms, of pain, the long-standing of the tumor, the fluctuation in size, and the general youth of the patient, undoubtedly dispel the suspicion of a malignant tumor.

The conditions which have to be considered in making a differential diagnosis are as follows:

1. *Cysts.*—Above the hyoid bone in the middle line, cysts are found that are not embryologic remnants of the thyroglossal tract. They may be due to an inclusion of epithelium, which develop suddenly after a local irritation. These are cysts due to remnants of branchial clefts, retention cysts of excretory glands, dermoid cysts.

2. *Ranulæ.*—A ranula is due to a retention in the duct of the sublingual or submaxillary gland. The tumor appears on the floor of the mouth and pushes the tongue to one side. It has a thin wall and its contents are semi-translucent. The tumor may be covered by abundant and large veins, in which case the differential diagnosis from an accessory thyroid is difficult. The subjective symptoms are in many respects similar to those of accessory thyroids.

3. *Polyps.*—These are due to a hyperplasia of the lymphatic tissue at the base of the tongue, syphilis and tuberculosis being generally the etiologic factors. Children with hypertrophic tonsils frequently have these lymphatic masses under the tongue. The enlargement of the lingual tonsil may form a tumor to the side of and behind the tongue. "Lyssa" (hypertrophy of the tonsils of the palate) may simulate an accessory thyroid by its location.

4. *Papillomata.*—These are rare. They are divided by Albert into flat and pedunculated.

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[17] Hinterstoisser: "Beiträge zur Lehre vom Nebenkropf," Wien.

CASES OF SUPERIOR ACCESSORY THYROIDS RECORDED FROM 1869 UNTIL THE PRESENT.

Author and Publication.	Location.	Age.	Sex	Time Between Appearance of Tumor and Operation.	Was the Thyroid Present in its Normal Location?	Results.	REMARKS.
1—Hickman: Trans. London Path. Soc., 1869. Vol. xx, p. 160.	Base and substance of the tongue.	2 days.	F.	....	?	Death by asphyxia...	No operation; tumor found at autopsy; child died from asphyxia.
2—Luecke: Pitha Bilroth's "Handbuch der allg. u. speziellen chir., ii, p. 283," also by Merten, Arch. Anat. and Physiol. 1879, p. 4083.	Tumor size of a fist, situated between the hyoid and the substance of the tongue.	22 yrs.	M.	Congenital....	?	Recovery in six weeks	Removed through the mouth.
3—R. Parker: Trans. London Path. Soc., 1881. Vol. xxxii, p. 238.	"Tubular adenoma of root and dorsum of tongue."	16½yrs.	F.	?	?	5 years later, half of tumor reproduced; no inconvenience.	"Glandular tubes with cubic epithelium, containing a plug of gelatinous material."
4—Bernays St. Louis Med. and Surg. Jour., Oct. 1888. Vol. lv, p. 201.	Two tumors: Size of cherry at foramen cecum, size of "bantam's egg," extending down toward hyoid bone.	17 yrs.	F.	?	?	Complete recovery in 14 days.	Removed by submental incision.
5-6—Butlin: Trans. Clinical Soc., vol. xxiii, p. 118. and Brit. Med. Jour., Dec. 1, 1894.	1. March 6, 1889, tumor size of hen's egg, removed from base of tongue June, 1889; another appeared in same place. Removed again.	32 yrs.	F.	One year......	?	Return of tumor in 3 months; disappeared (after second removal).	Removed through mouth.
	2. Similar tumor, smaller in size.	22 yrs.	F.	Six years......	?	Slight return; no inconvenience.	Removed through mouth by galv.-caut. loop.
7—Wolf: Arch. of Clin Chir., 1889. Vol. xxxix, p. 224.	Tumor size of nut, situated at left of base of tongue.	18 yrs.	F.	Six years......	?	No return............	Submental incision. Inf. maxilla, tongue divid.
8—Staelin: Jahr. der Hamburgischer Staatskrankenhaüser. 1891—92, p. 413.	Tumor extending from epiglottis to base of tongue.	77 yrs.	F.	No operation.	?	Tumor found at autopsy — died from pneumonia.	No symptoms intravitam. Sections showed normal thyroid.
9—J. Collins Warren: Am. Jour. of the Med. Sciences, 1892. Vol. civ, p. 377.	Tumor size of hen's egg, situated at base of tongue.	52 yrs.	F.	22 years.......	?	No return of tumor...	
10—Galish: Deutsche Zeit. f. Chir., 1894. vol. xxxix, p. 560.	Submental tumor size of a walnut.	24 yrs.	F.	Four months..	Present, normal	No recurrence........	Submental incision; knife.
11—Baber: Soc. of Laryngol. of Lond., Oct. 10, 1894.	"Swelling" at base of tongue.	16 yrs.	F.	Nine weeks...	?	Recurrence of tumor.	Submental incision; galv.-caut. loop.
12—McIllraith; Brit. Med. Jour., Dec. 1, 1894.	"Lump" on dorsum of tongue.	17 yrs.	F.	Two months..	?	No recurrence........	Removed through the mouth by knife.
13—S. J. Mixter: Mass. Gen. Hosp. Reports, Aug., 1895.	Small tumor at dorsum of the tongue. Another under the symphisis menti.	24 yrs.	F.	Three weeks..	?	No recurrence........	Submental tumor connected with the thyroid; not a true acces. thyroid.
14—Lympius: Deutsche Zeitschr. f. Chir., 1897. Vol. xliv, p. 451.	Tumor at base of tongue.....	34 yrs.	F.	Hoarseness for years; swelling for two.	?	No recurrence........	Removed through mouth. Tracheotomy.
15—Seldowitsch: Centrlb. f. Chir., 1897, p. 499.	Tumor cherry-size, projecting on dorsum of tongue.	14 yrs.	F.	?	Absent........	Myxedema after six months.	Galvano-cautery used.
16—Kraske: Reported by v. Chamisso in Beitr. zur Klin. Chir., 1897. Vol. xix, p. 281.	Tumor at base of tongue, more to the right.	37 yrs.	F.	?	Thyroid found absent before op'n.	Myxedema...........	Cretin preceding operation; removed through mouth; tracheotomy.
17—Reintjes of Nymegen: Reported May 23, 1898, at Soc. of Laryng. and Otolog., Holland.	Tumor at base of tongue.....	25 yrs.	M.	?	Absent........	Myxedema...........	Hemorrhage preceeded the operation.
18—Treitel: Reported at Berlin Med. Soc., May 25, 1898.	Sublingual tumor...........	?	F.	20 years.......	?	No operation performed.	
19—Benjamins: Nederl. Tijdsch. voorgenesk., 1899.	Goiter at base of tongue.....	?	M.	?	Absent........	Myxedema............	
20—Posthumus Meyjes: Soc. of Otology and Laryngol. of Belgium, June 4, 1899.	Right half, base of tongue...	24 yrs.	F.	"Potato" in throat since childhood.	Absent........	No operation	Bloody salivation.
21-22—Schadle: The Journal of A. M. A., Aug. 12, 1899, p. 386.	1. Tumor size of an English walnut. Very vascular.	25 yrs.	F.	Six months...	?	Removal first followed by hemorrhage; second by perfect recovery.	Electrolysis for 2 months, later, submental enucleation. Irregular menses since appearance of the tumor.
	2. Tumor at base of tongue.	23 yrs.	F.	Ten years.....	?	Patient refused operation.	
23—Holmes: Reference in The Journal A. M. A., Aug. 12, 1899, p. 388.	Tumor size of hen's egg at base of tongue.	Young wife.	F.	?	?	At time of report, "only a small mass left."	
24-25—Watson: New York Med. Jour. Vol. lxx, p. 579, Oct. 21, 1899.	1. Tumor at base of tongue, *from epiglottis to circumvalate papillæ.*	50 yrs.	F.	"Lump in the throat" for 10 years.	?	No recurrence shortly after operation.	Partial removal by galv.-caut. loop.
	2. Similar location.	16 yrs.	F.	Five years....	?	No recurrence	Galv.-caut. was used.
26—Vallas: Rev. de Chir., May 10, 1900.	Small tumor protruding on back of tongue	22 yrs.	F.	?	?	Tumor increased in size in 6 months.	Submental incision associated with puncture through mouth.
27—Theisen: Albany Med. Ann., 1901. Vol. xxii. p. 537.	Tumor at base of tongue.....	67 yrs.	F.	?	Absent at examination.	No operation, account of advanced age.	Variation in size of tumor goitre when young.
28—Curtis and Gaudier: Rev. Hebdom. de Laryngologie. Otol. et de Rhinologie. Vol. xxiii, p. 417, April 12, 1902,	Tumor size of a nut situated at foramen cecum.	21 yrs.	F.	Five years....	?	Excision—recurrence; operation 3 years later—no recurrence.	Tumor had structure of a colloid goitre.
29—Winslow: Amer. Med. Dec. 13, 1902.	Tumor, oval in shape, situated at base of tongue.	17 yrs.	F.	?	?	No recurrence..	P [illegible] complain.
30—Smith: Nord. Med. Arkiv., 1902. Vol. i, No. 2.	Tumor at base of tongue.....	48 yrs.	F.	?	?	No recurrence..	R [illegible] pharyngotomy.
31—Teweles: Wien. klin. Woch., Feb. 20, 1902.	Tumor, root of tongue, 5 cm. in diameter.	13 yrs.	F.	?	Present, normal.	No recurrence	Tumor had structure of normal thyroid.
32—A. Onodi: (Budapest) Arch. f. Laryn. u. Rhin. 13, 1902-03, p. 448.	Tumor occupying left half of base of tongue.	26 yrs.	F.	?	?	No recurrence	
33—Gaudier and Chevallier: La Presse Oto-Laryngol., Belge., January, 1903.	Tumor at foramen cecum....	20 yrs.	F.	Three years...	Thyroid absent.	No recurrence; no myxedema.	Subment. incis.; div. of hyoid bone; portion of tumor was left in place.
34—Case of Gorris...........	Lingual tumor..............	?	?	?	(?) Probably absent.	Myxedema followed the operation.	
35—L. R. G. Crandon: Reported by H. R. Storrs in Ann. of Surg., Sept., 1904. p. 324.	Tumor size of nut situated at base of tongue.	9 yrs.	F.	1½ years......	?	No radical [illegible] at time of [illegible] tion.	[illegible] undertaken, [illegible] pro- [illegible] had to be stopped.
36—J. B. Murphy: Present paper.	1. Submental tumor.........	34 yrs.	F.	15 years.......	Present.......	No recurrence..	Submental incision.
37—..........................	2. Sublingual tumor to left of base of tongue.	45 yrs.	M.	?	Present.......	No recurrence..	
38—Oliver C. Smith; N. Y. Med. Jour., 1904. lxxx, p. 818.	Acc. thy. on the post. third of the tongue.	50 yrs.	F.	Seven years...	Thyroid ?.....	Operated 3 times, recured twice, third ti[illegible]	Cocain tumor extirpated by ecraseur. No hem[illegible]
39—Alle[illegible] Surg. 1905.	Tumor, base of tongue......	18 yrs.	F.	Three years...	?	No [illegible]	[illegible] through mouth [illegible] profuse hemorrhage.

5. *Angiomata.*—These are frequently found at the base of the tongue. They have the same aspect as the accessory thyroids and may present the same clinical feature, that is, oozing or hemorrhage. The color of the angioma, however, is of a deep blue, almost black, and it empties by pressure.

6. *Lipomata.*—This form of tumor is very rare at the base of the tongue. The lemon-yellow color is highly suggestive of this tumor. A puncture would not cause bleeding; there is absence of oozing or hemorrhage.

7. *Fibromata.*—Fibromata in this location are rare. They may be pure or mixed. According to Fisher, they are submucous and are either single, double or triple. They reach the size of a pigeon's egg, have a pale color, and seldom bleed. There are on record two cases of fibroma of the tongue, one described by Pooley and the other by Fith. The first case was that of a girl. The tumor caused symptoms of suffocation and hemorrhage, both of which are met with in accessory thyroids; the differential diagnosis was therefore impossible.

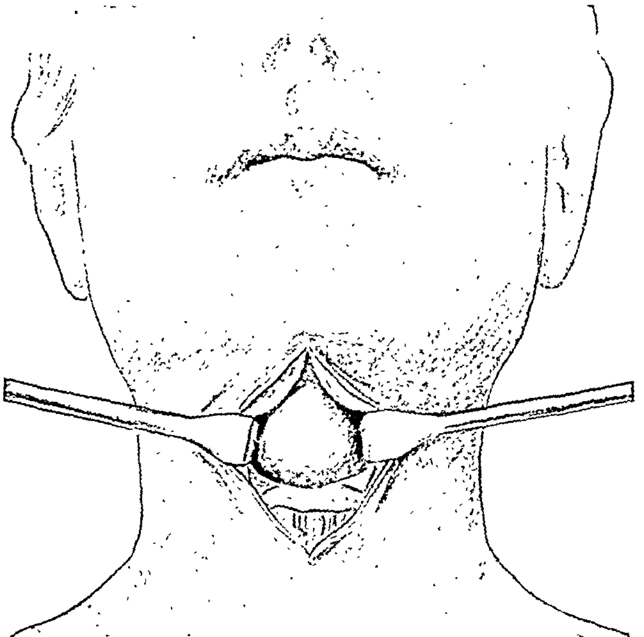

Fig. 5. Author's case. Tumor exposed by a submental vertical incision.

Gibb described a fibroid tumor the size of a billiard ball a little to the left of the base of the tongue. In the museum of the Royal College of Surgeons there is a specimen of a fibroid tumor the size of a walnut, situated at the base of the tongue.

8. *Syphilitic Gumma.*—In the absence of a history of syphilis, one should be able to find some syphilitic stigmata. The gumma usually has a tendency to ulcerate; it is not vascular. Anti-syphilitic treatment would be of great value, since tertiary affections are frequently benefited by specific treatment.

9. *Tumors of the Larynx.*—These first give disturbance of speech and generally distinct symptoms of asphyxia, and should be carefully differentiated.

In the differential diagnosis I desire to call attention particularly to the clinical course, the duration of the growth and the presence or absence of the normal thyroid.

TREATMENT.

The treatment is both medical and surgical. Medicinal treatment is generally unsatisfactory. Iodid of potassium occasionally slightly diminishes the size of the tumor. Local application of astringents may also reduce the size somewhat. External counterirritants have been applied, although without any satisfactory results. I suggest the use of thyroid tablets, which have proved to be of benefit in both exophthalmic and simple hypertrophic goiter. Before resort to surgical treatment it is an absolute duty to ascertain whether or not the patient possesses a thyroid in the normal location. As the accompanying table shows, grave mistakes have been made by surgeons who did not ascertain before the operation the presence or absence of the thyroid. That point is perhaps the most important one of this entire paper. The accessory thyroid may be the only one that the patient has, and of course all know what the natural result would be if such a precious organ were removed. Out of 39 cases recorded, 5 cases have developed myxedema within a longer or shorter time after the operation. If one is able to ascertain that the thyroid is present, and if such tumors cause a great deal of inconvenience or discomfort to the patient, surgical treatment is not only admissible but

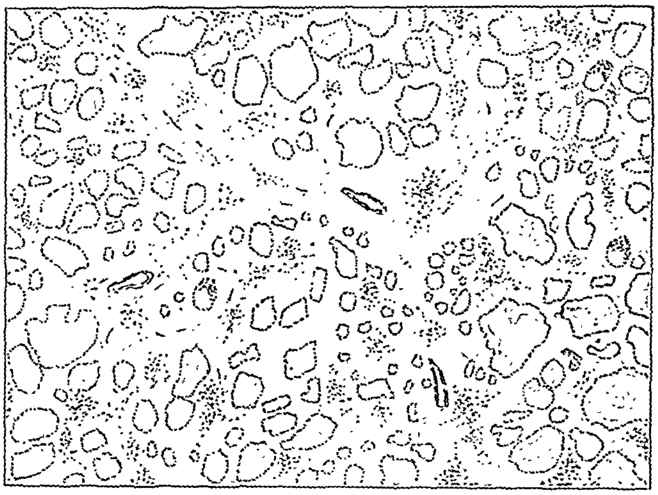

Fig. 6.—Section of a normal thyroid.

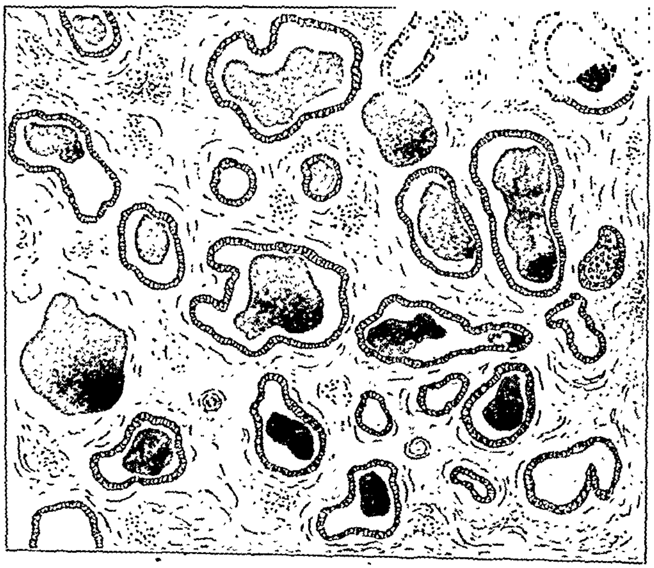

Fig. 7.—The section shows large glandular lumina, filled with colloid material. There is some hyperplasia of the connective tissue.

advisable. On the other hand, it must be borne in mind that the thyroid may be present, but on account of some pathologic condition of the organ the accessory thyroid begins to enlarge, which is frequently a physiologic compensation, and in these cases the removal of an accessory thyroid, regardless of the absence of the normal thyroid, is justified only when the tumor is sufficiently large to press down the epiglottis and cause symptoms of asphyxia. Even in such cases the surgeon should be conservative; that is, he should endeavor to remove only a part of the accessory thyroid.

SURGICAL TREATMENT.

Surgeons, assuming that they have to deal with a cyst, insert the trocar or aspirating needle; the former may become dangerous if used as a means of treatment; the latter is harmless for diagnostic purposes and useless as a means of treatment. Tincture of iodin, chlorid of zinc and other drugs have been injected in the tumor, but without good results, and the injections are not free from danger. The sublingual tumor can be extirpated either through the mouth or through a submental incision. In some cases, especially where the tumor is small and immediately under the mucosa of the tongue, it can be advantageously extirpated through the mouth. There is seldom any difficulty in enucleation; it can be accomplished with the scalpel or by blunt dissection. The hemorrhage that accompanies such a tumor may be alarming in aspect, but it can be controlled. General anesthesia is usually employed; cocain, however, has been used. If general anesthesia is employed, the mouth should be gagged, the head low and the tongue forcibly drawn forward. In several instances tracheotomy was resorted to in performing this operation.

SUPRAHYOIDAL OR SUBMENTAL ROUTE.

This is the route of election in all cases, and particularly if the tumor is large and protrudes beneath the chin. An incision is made from the symphysis menti down to the hyoid bone. The corresponding muscles are separated by retractors, and as soon as the tumor appears in the incision there is no difficulty of enucleating it either by the knife or the galvano-cautery. The presence of the thyroid in the normal position should be determined in every case before removing the sublingual growth, even though it necessitates a dissection of the neck.

RESULTS.

The prognosis is generally good if the normal thyroid is present. There is no death recorded after this operation.

Recurrence of the tumor has been noticed in 6 out of 39 cases. The most unpleasant experience recorded after extirpation of such tumors is the occurrnce of myxedema; this occurred five times in the 39 cases, as seen in the tables.

In closing, I wish to express my appreciation to Dr. Victor L. Schrager for collecting the literature of this subject.

Why a Country Doctor Should Dispense His Own Drugs.—You are certain to furnish a reliable article. You are certain that no "just as good" plays at cross purposes with you. You are certain that your formulas stay your own property. You get rid of refilling prescriptions without authority. You keep the privacy of your patient between yourself and him. You pocket a better fee, and your patient is better satisfied.—*Central States Medical Magazine.*

THE ALBUMOSURIA OF PHTHISIS.

A CLINICAL STUDY.*

J. F. M'CONNELL, M.D.
COLORADO SPRINGS, COLO.

Some two years ago, while working up a series of urinalyses for the purpose of computing the prognostic value of Ehrlich's reaction in the tuberculous, my attention was directed to a large proportion of the specimens having a precipitate with the characteristics of an albumose. There was very little to be found in the literature concerning the significance of this adventitious content; to be more precise, many authorities denied that it portended anything. Hence, the investigation and conclusions here presented I believe to be original.

Albumosuria may be defined as the presence in the urine of a primary product of the digestion of a proteid, differing from albumin in not being coagulable by heat. The albumoses appearing in the urine have a wide nomenclature, which is of little clinical interest. Suffice it to state that it has been conclusively shown that such products are in no wise to be considered as peptones (in the sense of Kühne), which never appear in urine. The physiologists tell us that these bodies are excreted by the renal function when the intracellular disassimilation of proteids is perverted. With this and other theoretical observations I have little to do, as my purpose is to present a clinical deduction, which, if confirmed, should be of vast benefit, namely, the placing of the empiric therapeutic idea of rest on a rational basis.

The twenty-five cases studied during the first six months were patients presenting the ordinary evidences of tubercular invasion who were seeking amelioration through climato-therapy. In their symptoms they were fairly similar. The majority suffered from febrile disturbances, which varied only in degree. All such were subjected to the empirical idea of rest, and it was noticeable in these cases, as in many others preceding them, that some patients did not improve under rest, but did become better when allowed to exercise, such improvement being attributed to better elimination of the toxic products of the disease. But why? Fever denotes a dissolution of the body substances and increased absorption of fat and albumin. Exercise intensifies this; the reparative functions being below par, there is a continued absorption, not only of the tissues of the body, but of the proteins, the etiologic factors of more fever, and yet the experience above given is a common one.

Systematic urinalyses were undertaken and the following observations recorded. With a view to conciseness, these may be reviewed from a triple standpoint: First, those febrile patients giving a positive reaction whom I have designated albumosurics; second, febrile patients giving a negative reaction under rest and exercise designated non-albumosurics; third, non-febrile subjects giving a negative reaction despite the fact that overexertion, mental stress, hot baths, etc., cause a rise in temperature.

Observation 1.—A. B. C., male, aged 26, weight 145 pounds, normal weight 164 pounds, good family history, clinical and bacteriologic evidences of tubercular invasion of right superior lobe; morning temperature, 97 3/5° Fahrenheit; pulse, 80; slight chilliness at 11 a. m., afternoon rise varying from 101 3/5 to 102° Fahrenheit; pulse, 90 to 96; gradual loss of weight. Urinalysis, positive reaction to albumoses test.

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* Read before the Colorado State Medical Society at its Annual Meeting, held in Colorado Springs, 1905.

Patient placed at rest on sleeping-out porch. Chill anticipated and usual disciplinary methods enforced. Temperature gradually declined to almost imperceptible afternoon rise. Albumoses disappeared some days later. Gain in weight. Patient allowed limited exercise without bad effect. After a week patient overstepped bounds, fever and albumosuria returned, with loss of weight as a resultant.

Observation 2.—J. K. L. is representative of the second class. Male, aged 22, weight 151, clinical and microscopic evidences of tubercular involvement of both apices; morning temperature, 98; pulse, 82; afternoon rise of 100 to 100 3/5; pulse, 88, which was persistent, though disciplinary rest treatment was enforced. Albumoses were at no time demonstrable in the urine.

During rest patient lost eight pounds in weight. Exercise, under supervision, was then permitted with the happiest results. At present time patient is playing golf each day, has gained fifteen pounds in weight, temperature is normal and pulse nearly so.

Observation 3.—X. Y. Z. is cited as a representative of class three. Male, aged 28, at one time tubercular fibrosed right apex. After fatiguing exercise, mental excitement, etc., there is an afternoon rise to 100. Test for albumoses negative.

In the 129 records at my disposal, of which the above serve as types, there is much of interest to be gleaned as to classification, but this I leave for more mature investigation. Briefly stated, it is evident that the albumosuric patients suffered from a rise of temperature, increased by exercise, which was febrile in character—contrariwise non-albumosurics presented a rise of temperature—which was not benefited by rest and in whom exercise under supervision was attended by the happiest results.

TESTS.

In all cases of albumosuria the amount of albumose that appears in the urine is relatively small, and as a rule can not be demonstrated by the biuret test when applied directly to the native urine; on the contrary, it is necessary to isolate the substances more or less definitely before deductions can be drawn as to its presence or absence.

Test.—Ten c.c. of urine are treated with 2 c.c. of a saturated salt solution in order to get rid of the common albumins, acidified with 5 drops of dilute acetic acid boiled and filtered while hot; coagulated albumins remain behind while albumoses go into the filtrate from which they separate on cooling. The filtrate should then give the biuret reaction, which is best brought about in the following manner:

The urine is heated with potassium or sodium hydrate solution and a 10 per cent. copper sulphate solution added, drop by drop. The positive reaction is a rose coloration.

If in a suspected specimen the reaction with the above test should become negative, it is often worth while to try the following method: 10 c.c. of urine are treated with 8 grammes of ammonium sulphate; the fluid is then boiled for a moment, placed in the centrifuge for one minute, and the sediment stirred with alcohol in an agate mortar. The alcohol is then poured off and the residue dissolved in a little water. This solution is boiled and filtered and the filtrate tested for the biuret reaction. By this method it is possible to demonstrate albumoses in a dilution of 1/5000.

708 North Tejon Street.

Thoroughness.—It is not good to be a bigot, and to give no credit for intelligence to our opponents, either in politics or in religion; but there is something worse than bigotry, and that is instability—to have no opinion except what is pumped into you by your neighbor, or to have one opinion to-day and another to-morrow, or never to rise above opinion, and to reach conviction. This . . . indecision may be due to a certain quality of mind which never can come to a conclusion, and never can take a side strongly, but the chances are that want of conviction means intellectual indolence. . . . Let us believe something with all our might, for the day will come when God will give to the honest thinker more light.—Ian Maclaren.

THE ROENTGEN RAYS IN DENTISTRY.*

MIHRAN K. KASSABIAN, M.D.

Director of the Roentgen Ray Laboratory of the Philadelphia Hospital.

PHILADELPHIA.

The discovery of the Roentgen rays in 1895 marked a new epoch in the domain of dental surgery. The first skiagraph of the teeth was presented to the Society of Physics of Frankfurt-on-the-Main, in February, 1896, by Prof. Koenig. In April, 1896, at the Congress of Erlangen, Walkhoff demonstrated many skiagraphs of the teeth in the living subject. Dr. W. J. Morton wrote an article which appeared in the *Dental Cosmos,* June 1896, on "The X-rays and Their Application in Dentistry."

Since then, many dentists and physicians in this country and abroad have endeavored to bring dental skiagraphy to a greater degree of perfection; yet the field is wide and requires many modifications and improvements.

TECHNIC.

Although the technic and principles of dental skiagraphy do not differ greatly from ordinary skiagraphy, I wish to describe it very briefly for the benefit of those who are interested, and are desirous of entering on this special subject.

The apparatus that I have recommended for the production of the *x*-rays is a small Ruhmkorff coil, 6-9 inch spark producing size, energized by a storage battery, or a 110 volt, placed on a shelf, etc. The Crookes tube should have such a vacuum so as to produce rays of good penetration. The direction of the rays in relation to the teeth and jaw is most important; the position of the tube and part must be so arranged as to skiagraph the part without superimposition of the different structures.

TECHNIC OF DENTAL SKIAGRAPHY.

Fluoroscopic examinations in dental work do not yield satisfactory results. The two methods of skiagraphing dental conditions at present most commonly employed are: A. The intraoral. B. The extraoral or buccal.

A. The Intraoral Method.—This consists in inserting a small piece of film (light and moisture proof) over the gum tissue where trouble is suspected, and in placing the tube in such a position that the rays will fall perpendicularly on the teeth and film. A small sensitive plate, being inflexible, cannot be made to adapt itself to the curvature of the part.

Price, of Cleveland, encloses the sensitive film in unvulcanized black dental rubber, using a sheet of sensitive bromid paper to protect the emulsion. Rollin, of Boston, encases the film in an aluminum cover. Ordinary kodak films can not be used for this purpose.

Personally, I prefer a specially prepared thick, double coated film. I cut it to the size required for the special condition, and enclose it in a layer of black paper, after which the paper is so folded as snugly to enclose the film; the whole is placed in a yellow envelope just large enough to accommodate the size of the paper and film; the smooth side corresponds to the sensitive side of the film.

Place the patient preferably in the dental chair and adjust the tube. In the latter procedure, see that rays fall perpendicularly to the vertical apex of the teeth. If the adjustment of the tube be faulty the shadows of the teeth will be distorted.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

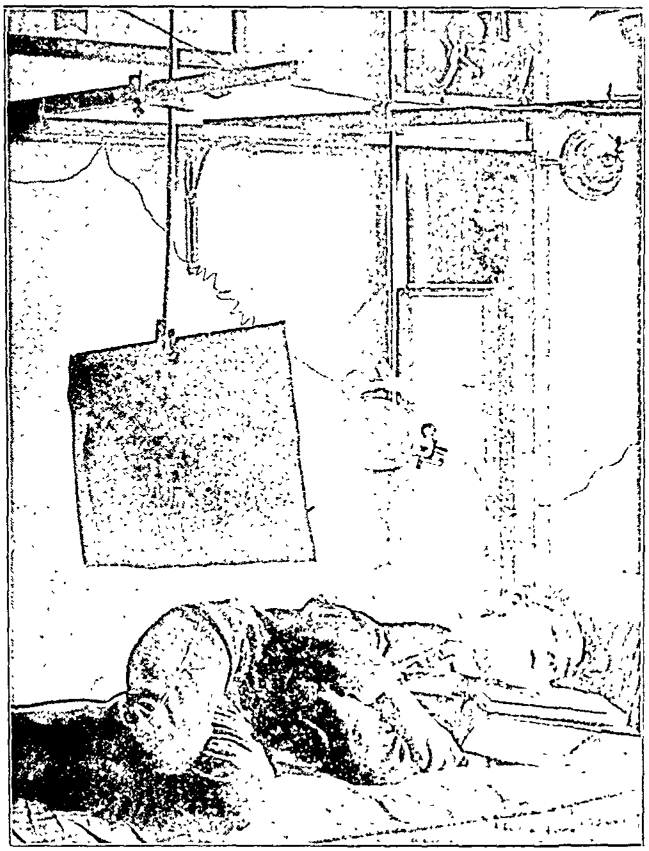

Fig. 1.—The extra-oral or buccal method, showing the positions of the patient and tube and the lead screen to protect the operator.

Care should be taken to place the film against the hard palate in order to include in the skiagraph the roots of the teeth. Before its introduction into the mouth, the enveloped film should be reinforced by two rubber bands. It must always be remembered that a skiagraph of the superior maxillary bone is less satisfactory than of the inferior maxillary, as the film cannot be placed in a line parallel with the teeth. Two films (superimposed) can be taken at one exposure.

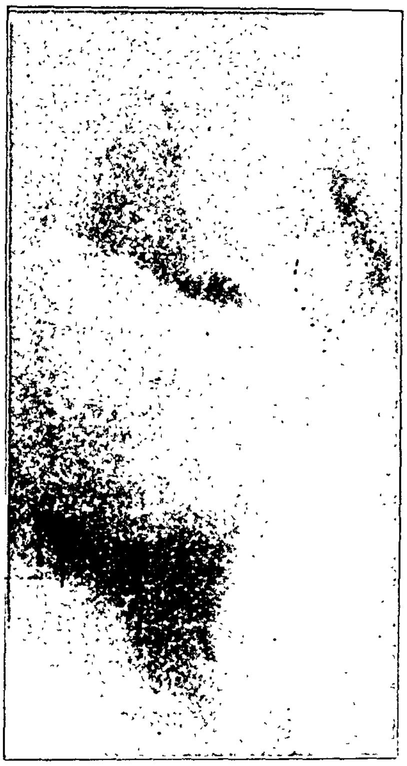

Fig. 2.—Unerupted upper right cuspid (Dr. Dray's case).

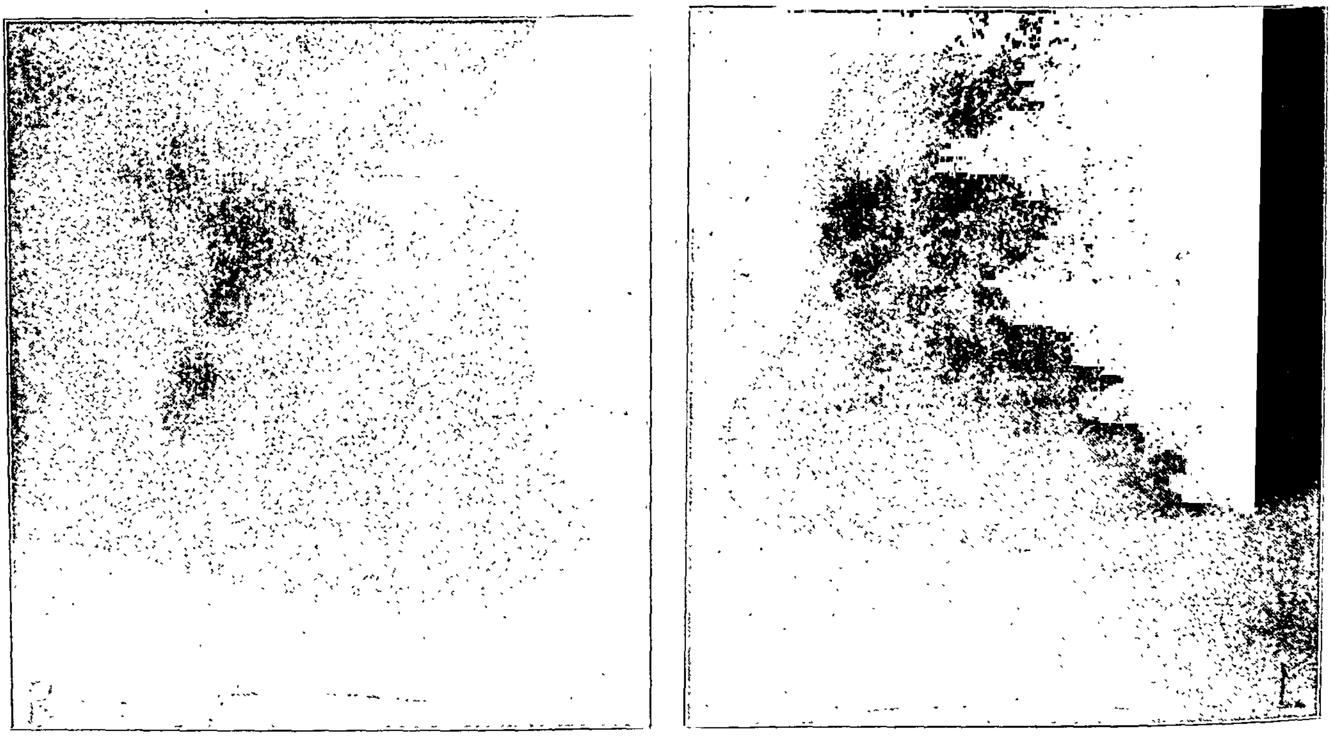

Fig. 4.—Unerupted right and left second bicuspid of lower jaw (Drs. Cryer and Smith of Baltimore).

As only one or two teeth can be taken at one time, the film should be pressed against the affected part; the exposure varying from two to ten seconds. The advantage of this method is to be found in the sharper definitions on the negative, but it must be remembered that only a small area can be taken.

B. The Extraoral or Buccal Method.—This requires a plate 8x10 against the jaw at the suspected region.

A block of wood is wedged between the widely extended jaws, and the patient is directed to lie on the affected side and to incline the head and neck to an angle of about 45°. The tube is now placed over the opposite shoulder, the latter being protected by a sheet of lead (the tube being placed very close to the shoulder). The rays are sent obliquely at a distance of 20 inches from the face to avoid overlapping of the shadows of the jaws. The method produces a picture of greater area, and is intended for bicuspids and molars of both jaws. Exposure varies from one to three minutes (Fig. 1).

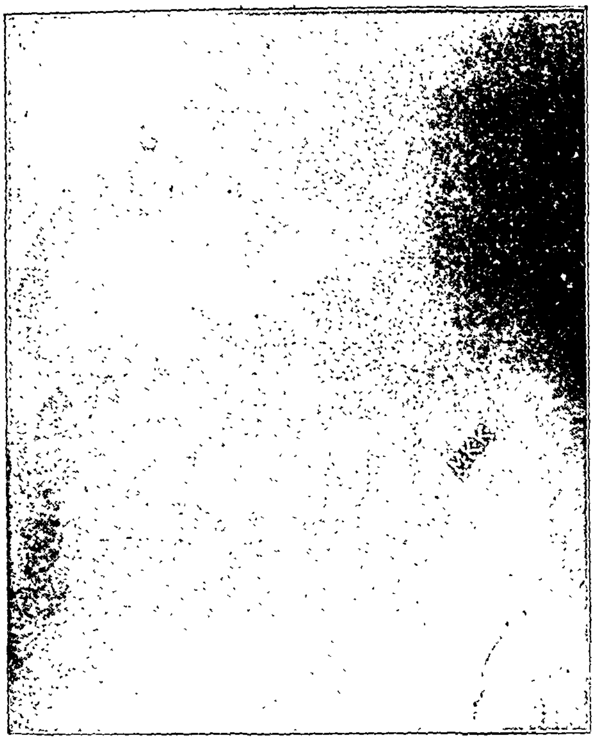

Fig. 3.—Unerupted upper left cuspid (Dr. M. H. Cryer's case).

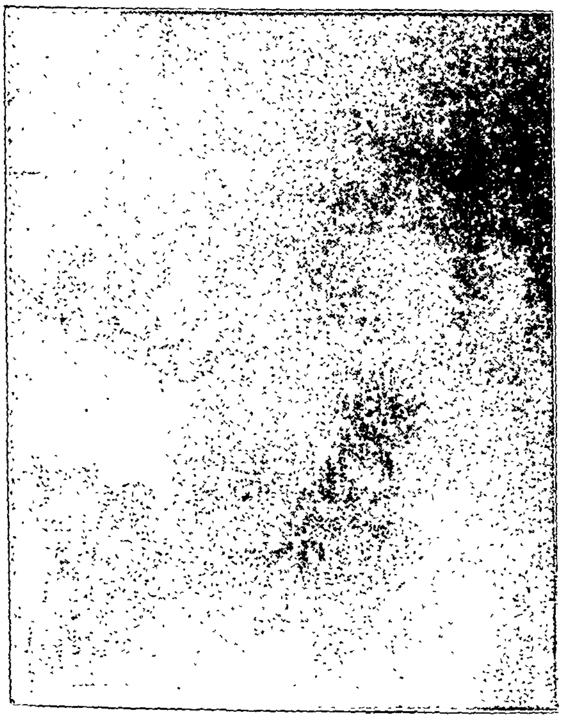

Fig. 6.—Pericemental and alveolar necrosis of the upper third molar on which was bridgework (Dr. W. Freeman's case).

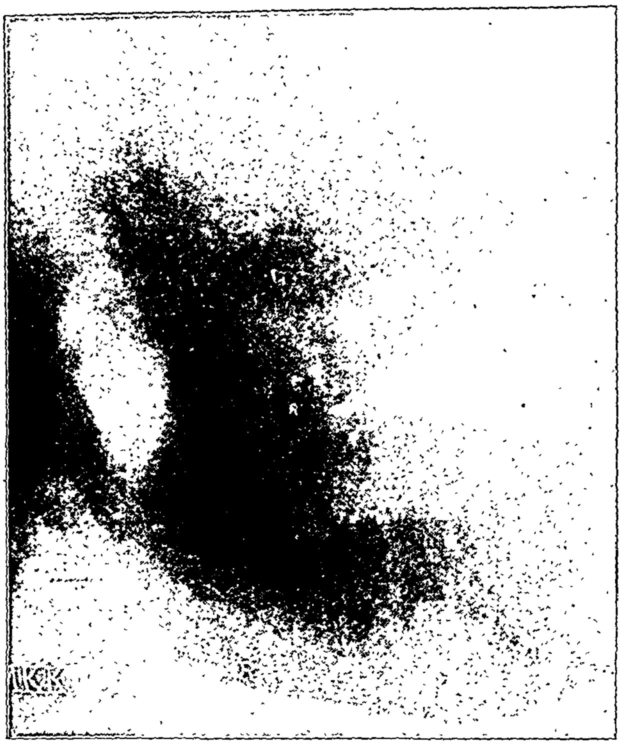

Fig. 5.—Unerupted third molars on both sides of lower jaw and one on the upper right side (Dr. M. H. Cryer's case).

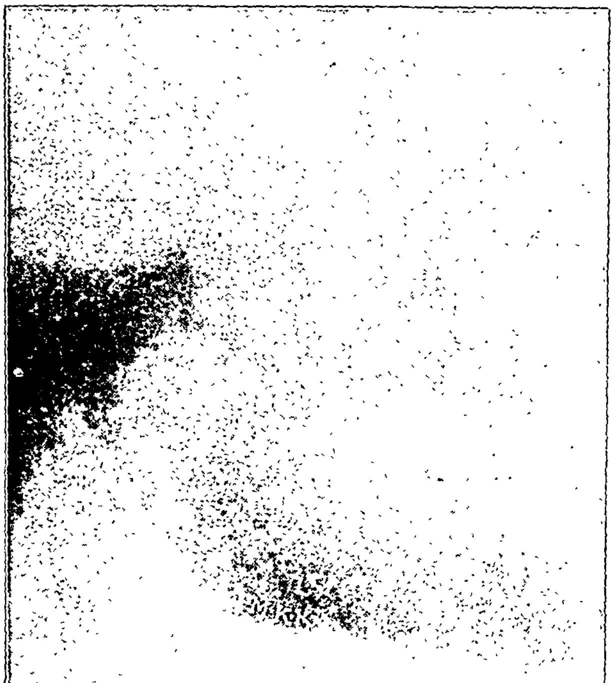

Fig. 7.—Dr. Jaco's case. Broken root of the right upper canine.

THE CLINICAL APPLICATION.

This method will assist in studying the anatomy and physiology of the oral cavity, viz., the eruption and evolution of the teeth.

Anatomy.—The sinuses, dental canals and foramina, antrum of Highmore and many other conditions in normal or diseased states, can be studied most thoroughly.

The structures of the teeth can be studied; namely, enamel and dentine give different shadows, the former being a denser shadow than the latter. The pulp, dental canals, etc., are likewise visible.

Evolution of the Teeth.—The evolution can be studied from the second month of the embryonic life, and each month thereafter. Calcification, which begins at the crown of the tooth, can be studied in its different stages.

Unerupted and Retained Teeth.—An important condition coming under the dentist's care is the retention or non-eruption of a permanent tooth owing to the temporary tooth remaining in the alveolar socket beyond the age considered normal. If the skiagram reveals the unerupted tooth to be of normal shape, and so located as to permit of its eruption, the indication is to remove the temporary tooth.

Cases of odontalgia frequently reported are undoubtedly due to an unerupted tooth; in such cases the etiologic factor may be revealed by the *x*-rays.

The following are a few of the cases in which *x*-rays were utilized for this condition.

Case 1.—Unerupted upper cuspid of the jaw; referred to me by Dr. Dray in 1900; patient a medical student complaining of facial neuralgia, etc. (Fig. 2.)

Case 2.—Unerupted cuspid of upper jaw referred to me by Dr. Cryer. Patient had a swelling under the eye; he suffered pain; had eye symptoms, headache, etc. (Fig. 3.)

Case 3.—Unerupted second bicuspid of the inferior maxillary bone in a girl of 12, on the right and left side, referred to me by Drs. Cryer and Smith of Baltimore. (Fig. 4.)

Case 4.—Unerupted third molars on both sides of lower jaw, and one on the upper right side, referred to me by Dr. M. H. Cryer. (Fig. 5.)

Foreign bodies and broken instruments, defective root fillings, whether properly and completely filled or not. Fracture, etc., and metal splints can be studied.

Ankylosis of the inferior maxillary articulation, tempero-maxillary, whether it is bony or false, can be studied both fluoroscopically and skiagraphically. This ankylosis may be true or false, partial or complete, depending on the cause; both fluoroscopic and skiagraphic examination is necessary. The extraoral or buccal method should be employed. In early stages, the articular and cartilaginous joint presents an irregular surface, and in time ankylosis occurs, as when following a fracture involving the joint. The latter may be seen to be wholly obliterated, absence of movement being manifested clinically in false ankylosis. The joint is seen to be eroded, the fibrous adhesions not showing unless they have become partially infiltrated with inorganic salts. False ankylosis is often due to rheumatism or to syphilitic diathesis.

Dead pulp in a tooth is indicated by a break in the continuity of the pericemental membrane at the apex of the root, by more or less absorption of the adjacent osseous tissue, and occasionally of the roots in long standing cases. In the majority of instances, such an abscess is due to imperfect treatment, but in many cases the canal of the root is so narrow and irregular as to make it almost impossible to fill the canal or cavity to the apex.

When a case presents symptoms of a pericemental inflammation, and the history is uncertain, the most rational procedure is first to skiagraph the field, thus ascertaining the exact location and extent of the lesions, and often its cause.

Case 5.—Dr. P., patient of Dr. W. Freeman, suffered intense neuralgia, with painful reflexes from the ear, nose and eye. He had a bridge on the third upper molar. The skiagraph showed a pericemental and alveolar necrosis; tooth was removed and alveolar process was cleaned, etc. (Fig. 6.)

Case 6.—This was a patient of Dr. Cryer. The angle of the inferior maxillary bone was swollen and painful. A skiagram was taken while the probe was inserted. It showed a necrotic condition of the angle of the lower jaw, and the probe was inserted up in the canal. There was found an unsuspected necrosis. The patient was operated on and several months after the skingram showed the regeneration of the bone.

Case 7.—Dr. Gaylord's case, Mr. E., aged 65.

History.—Three years ago the third molar was removed, and an artificial plate was made. Three months after swelling around the first cuspid was noticed.

Treatment and Result.—On account of his age, the surgeons thought it malignant, and so operated and curetted the (abscess) bone, as shown in the skiagram.

After the operation (three years ago), there was a sinus, which gave him much discomfort and pain; every remedy and surgical treatment proved unavailing. A skiagram showed a broken root on the plate, and on the film it showed the root was 2 mm. under the gum tissue. The root could not be felt. Dr. Gaylord removed it, and with an injecting solution showed the sinus to communicate with the root of the tooth. The patient recovered in four weeks.

Case 8.—A woman, aged 65, was referred to me by Dr. Jaco. The patient had suffered for fifteen years from neuralgia of the right side of the face. Dr. W. W. Keen removed the infraorbital and infradental nerve, but the neuralgic pain still persisted. A skiagraph revealed a small broken root of the right upper canine tooth. Prior to a careful study of the case thirteen sound teeth were uselessly extracted. Before making plates for artificial teeth, the dentist referred the case to me, to inquire if the rays would discover a retained root, which would cause a repetition of the former trouble. (Fig. 7.)

ABSCESS OF ANTRUM OF HIGHMORE AND FRONTAL SINUS.

A skiagram of a lateral view of the face and suspected side next to the plate will always show an abscess of the antrum, but the better way, and I always prefer it, is to have a skiagram of the occipito-frontal view, viz., the patient puts his head over the large plate and rays come from the occiput. This view will show the affected side, which can be compared with the normal side. Frontal sinuses can be shown by lateral view.

Recently I examined a retired physician, the case being referred to me by Dr. J. Solis-Cohen. A skiagram showed pus in the frontal sinus; two skiagrams were made, one before and one after evacuation. I have had the privilege of studying dental conditions and the anatomy of the face with Prof. M. H. Cryer, at the Philadelphia Hospital, whose dry specimens and cases offered most thorough study in the exposition of the methods of stereoskiagraphy.

Professional Ethics.—A practitioner of medicine, to the best of his knowledge and ability, should strictly follow the code of *etiquette* accepted by the profession, for he may be assured that it has its root in a principle which works for the general good, while for his real success nothing in the end will prove more helpful than a faithful adherence to the spirit of the rule, "Do as you would be done by."—*British Medical Journal.*

BEHRING'S NEW TUBERCULOSIS REMEDY.

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"I can assure you that rarely in my life have I felt greater joy than during those days, weeks and months when I recognized with ever-growing clearness the essential causal relation between inoculation and immunity." These enthusiastic words were uttered by von Behring at the closing session of the International Congress of Tuberculosis October 7, of this year, before an assembly of lay and medical members and their guests. They served as an introduction to the revelation of this remedy of tuberculosis, of which we, who were in Paris at the time, had seen the most wonderful accounts on the preceding days in the sensational press of the French metropolis. It seems to be the specialty of international congresses to bring forth some sensational revelations. In 1890 Koch's announcement of his tuberculin and later in 1901 of his unbelief in the identity of the human and bovine type of the tubercle bacillus are still well remembered. The sensational element in this, as it was the case in the others, will exert a regrettable influence on the public and especially on its good opinion of things medical.

Anything uttered by the inventor of diphtheria antitoxin by a scientist of the first rank, however, must command attention, no matter how regrettable its mode of announcement may seem. The original text of Behring's address was translated by Letulle and Fuster. It may be presumed that this translation which was read at the congress in Behring's presence, was authorized by him. All the various English translations seem to have been made from this French translation. The only German text available so far is the one given in the *Münchener Medicinische Wochenschrift*, No. 43. There are some more or less important differences in the wording and actual text of these various articles. In quoting Behring I shall hold myself principally to the German text.

First of all, it may be suitable to examine what Behring promises to accomplish with his "new tuberculosis remedy." He says: "My method is destined, I believe, to protect men threatened with phthisis, against the damaging consequences of the infection." Ambiguous as these words are, we must take them to signify that the remedy is not expected to cure tuberculosis in all its stages, but to prevent in those infected the development of destructive processes, i. e., phthisis. Exactly where the efficiency of the remedy begins and ends is not indicated in the address.

This accepted, we may proceed to analyze his theory of a curative principle, the existence of which he says he has recognized with certainty during the last two years and which is entirely different from the antitoxic one. Here, again, is the same ambiguity of expression. He says "this new curative principle plays the essential rôle in the immunizing action of his 'bovo-vaccine.'" This latter method consists in the inoculation of cattle with human or other attenuated varieties of the tubercle bacillus in increasing doses until an immunity not only against these but also highly virulent bovine bacilli is obtained. The curative principle, he says, becomes active by the impregnation of the living body cells with a well-defined constituent of the tubercle bacillus. He has isolated this substance and calls it TC, as E. Klebs has done for long years to indicate the active curative principle contained in the cultures. Behring thinks his TC has formative, assimilating, absorbing qualities and thus constitutes the life principle of the bacillus. That Behring thinks he has been able to isolate the "life principle" of the bacillus *in vitro*, must be taken as the most direct indication of his intention as I will show later. This TC has remarkable qualities; he finds it has fermentative catalytic powers, even within the impregnated animal cells. It is responsible for the hyper-sensibility to tuberculin and the curative cellular reaction against the virus. The healing action is exerted through a transformation of this TC within the cell into some hypothetical derivative, which Behring calls TX, because he does not know yet whether it is a ponderable body or not. A cellular immunity quite different from the antitoxic, humoral immunity is thus produced, and Behring says that he has arrived at the clear conception of this through his intimate acquaintance with Metchnikoff's work on phagocytosis. Experimental proofs for this view he does not give us, however. He promises them in a new book which is to appear soon.

The method of preparation of his remedy is then sketched, and the fact that Behring and his school have made in the Behring works at Marburg the most exhaustive chemical and experimental investigations of the various components of the tubercle bacillus renders this part of the address of particular interest. These works, which were established at the expense of a well-known chemical firm, are the most perfect to be found anywhere and offer every opportunity for these studies. Several hundred thousand liters of bouillon media have been used there for the growth and subsequent study of the tubercle bacillus only. One who sees the scanty cultures in ordinary laboratories would be astonished to find here crops of tubercle bacilli weighing pounds. Apart from the laboratory facilities, there is offered every opportunity for experimentation on large and small animals also on a scale not to be found elsewhere. A staff of very able assistants working under one of the foremost bacteriologists of the age, and utilizing these facilities must produce results which of necessity compel attention. In speaking of the method of preparation of his TC, Behring considers three groups of substances which hinder its therapeutic action. We may note here that Behring, Römer and Ruppel have previously isolated and studied twenty-five separate substances derived from the bacillus by various methods. The three groups Behring refers to are; (1) One substance soluble in water and corresponding to Koch's tuberculin. By certain procedures he was able to increase its toxicity so that 1 gram of the substance is more powerful than 1 liter of the old tuberculin. (2) A proteid substance soluble only in neutral salts (NaCl). It is toxic like tuberculin. (3) A group of non-toxic substances soluble in alcohol, ether, chloroform, etc. The body of the bacillus, freed from these three groups of substances, Behring calls the rest-bacillus. He reduces it probably through grinding to an amorphous mass, and this is, although he does not state it directly, the TC. Introduced into the subcutaneous tissue of certain animals which are not immune to tuberculosis, he finds it is taken up by the cells which originate from the lymphatic germ centers. These cells transform the TC and become oxyphile and eosinophile simultaneously with the manifestation of bodily immunity. Behring considers it of fundamental importance for the comprehension of the therapeutic TC action, that although it is not itself capable of reproduction, tubercles can be produced by it, tubercles which never caseify or soften, but heal spontaneously without leaving traces (Laennec's granulations tuberculeuses).

These are about all the facts given in Behring's address. As to the method of applying his remedy (which he considers capable of improvement), no direct information is given. He only says that it can perhaps be modified with advantage.

Therefore, in order to get a conception of his theory of the new curative principle, of the nature of his remedy and its application, we must resort to speculation, and this is possible only with a due consideration of Behring's other recent work on immunization. Although Behring's language in his address is vague and ambiguous, there are certain essential principles which can not be misinterpreted. First of all among these is the fact that Behring finds the curative principle pre-existent within the body of the tubercle bacillus. This means an entirely new departure and radical change in Behring's opinion. In his introduction[1] to the work on cattle immunization against tuberculosis, we find this very positive statement: "We must for once and ever discard the teaching of the co-existence of curative and damaging agents within an infective substance (Bouchard's *matières vaccinantes* and *matieres nuisibles*)." In whatever way he may explain the action of his TC, we can consider it nothing else but a "matière vaccinante" extracted from the bacillary body.

He has been able to produce immunity against tuberculosis by the introduction into the circulation of living and self-producing tubercle-bacilli, but he has the "most serious objections" to the application of such a method in man. In TC he has found a substance which is not living and self-reproducing, but nevertheless "can be made far superior to the living bacillus in regard to its protective and curative action." There is certainly nothing very new in this discovery, and should it prove to be true it would be a brilliant vindication of E. Klebs' investigations which allowed him to adhere persistently to his theory of a curative element pre-existent in the tuberculous virus. Even before 1894, when this author published *in extenso* the results of his biochemical investigations of the tubercle bacillus, he defended his theory of the presence of a curative principle in the virus, which he then called, as Behring does now, TC. He has through all these years substantiated his theory by numerous tests on animals and in men. E. Klebs sees the mechanism of the immunizing process by his TC in its bactericidal action, and it can not be stated clearly from the works of Behring, how much he differs from him in this respect.

Behring speaks of a cellular immunity altogether different from the humoral antitoxic immunity, but the mechanism of this is by no means clear. In his work with Much,[2] the relations of cell life to certain (anthrax) infective organisms were studied with very interesting results. The conclusions then drawn were that not only cells suspended in body fluids are carriers of antibodies, but also fixed tissue cells can carry and produce them. Also that various infective substances show elective qualities for certain definite cell groups. In the case of tuberculosis, as we have seen, Behring has paid special attention to the germinative cell centers of lymphatic tissue. He has evidently studied these cells by similar methods, as was some time ago done by Donath and Landsteiner. There he came to the following hypothetical conclusions: The cells, leucocytes, endo- and epithelial cells in this case, during a course of a subacute or chronic infective process become victim to "oxyphile" degeneration (the less virulent the infection the more the oxyphilia, intense coloration by eosin), they are finally reduced to a colloidal solution which gives to the blood fluid the agglutinating properties against that variety of bacteria which has produced the infection. We have seen that Behring in his address says that the metamorphosis of the TC within the cells is accompanied by their oxyphile and eosinophile degeneration, and that this marks the manifestation of immunity. He does not state there what further changes take place in the cells and what part they play in the immunizing process. In the above-cited case (anthrax) he suspected that the modified cell substance acted through agglutination. It is very doubtful if this theory is applicable in the case of tuberculosis. But there is no doubt that these processes merit the great attention which they have received in very recent times. We know that Wright and Douglas have found in the blood plasma certain substances which they call opsonins. These substances, by becoming attached to the bacteria, make them (opsono: prepare as food) susceptible to phagocytosis. Whatever the mechanism of immunization in Behring's method may be, it appears very probable from the foregoing that he imagines a more or less direct bactericidal action to take place.

These considerations may throw some light on one of the darkest passages of Behring's address. It is: "I have transformed active into passive immunization." In Ehrlich's terminology we know that "active immunization" pre-supposes cell activity for the production of antibodies; in "passive immunization" the latter are artificially introduced into the body through a foreign serum rich in receptors. It may be that the "passive action" of the cell substance, as we have seen above, has given rise to this expression of Behring's. It certainly does not seem probable that Behring's method of application is based on what Ehrlich calls passive immunization. Behring, it is known, has substituted for Ehrlich's terms active and passive, "isopathic" and "antitoxic."

Since Behring expressly states that the new, by him discovered, curative principle plays the essential rôle in his immunization method of cattle, it is most probable that this latter has been followed by him here with some modification. We have seen that he objects to introducing into the human organism living tubercle bacilli. But since he has found that he can make these latter perfectly harmless, by extracting from them the TC, a substance of much greater protective and curative powers and which, he emphasizes, contains the life principle of the bacillus, we are forced therefrom to conclude that his method consists essentially, not as in cattle immunization in the introduction of living tubercle bacilli, but in that of the life principle, the TC. With this theory of the bacillary life principle he covers up another change of opinion, because only this year we find him saying: "My bovo-vaccine consists of living germs. If it is heated so that the germs are killed it ceases to be a vaccine. It may contain a poison, but it is not any more self-reproducing and the poison is not capable of exerting a protective action."[3]

The hypothesis that Behring intends to use the bacillary product TC directly for immunization purposes, I believe, is strengthened by his most recent contribution to the subject in a letter to the November number of the *Revue Internationale de la Tuberculose*. He speaks there of his intention to use the unstable remedy TX in man, while the mother substance, the TC, which is more preservable, is to be used in animals, but he adds: "It is not impossible that later TC will be employed advantageously in man." He says, also, that he has extracted the TX from the animal body and compares it to an explosive substance, probably indicating thereby its instability. From what has been said before it seems quite likely that he has used for extracting purposes the lymphatic tissue, possibly the bone-marrow of cattle. The fact, however, of his extracting the TX for experimental purposes does not at all detract from the significant fact expressed by him that he thinks it possible that ultimately the TC can be used directly for curative purposes.

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[1] "Beiträge," No. 5, p. 6.

[2] Deutsch. Med. Woch., 1904, No. 1.

[3] "Beiträge," No. 10, p. 2.

With a knowledge of Behring's ideas of cattle immunization we are allowed to presume that in human immunization with TC or TX he will introduce this substance by the same way. He has chosen the quickest and shortest routes to the points of attack of the tubercle virus, which he believes to be the leucocytes and the non-striated muscle-fibres, i. e., through the blood-current. He finds by this method the elective attraction between polynuclear leucocytes and the tubercle bacilli brought about very rapidly and especially in animals which previously have been under the influence of the tubercle virus. We see here again how much importance he ascribes to the cellular conditions.

The results of recent clinical studies of leucocytosis and phagocytosis have a direct bearing on these questions. Arneth's investigations[4] of series of neutrophile blood pictures, made on a very extensive scale, have allowed him to come to certain definite conclusions in regard to tuberculosis immunity. He is led to believe that the injected quantities of toxins (tuberculin in this case) according to their dose destroy a larger or smaller quantity of neutrophile leucocytes or what he considers the same, that for the production of antibodies a corresponding number of cells is needed and used up. To replace the loss created by this increased consumption of cells a more or less stormy production of cells (leucocytosis) follows. This increase of functional fitness is shown by an ever-increasing production of antibodies which with the consumption of the cells enter the blood in corresponding quantities, thus enabling the organism to overcome increasing doses of toxins without reaction, i. e., to become immune. This seems to be supporting Behring's theory of a cellular or histogenetic immunity, or better, it revives the interest in Metchnikoff's theory of phagocytosis. Metchnikoff has persistently adhered to the fact demonstrated by him, of a phagocytic derivation of antibodies. In this respect the careful studies of phagocytosis inaugurated by the Belgian investigators, Denys and Leclef, will also have to receive renewed attention.

There is, however, a large group of careful investigators who adhere to the humorigenic origin of the antibodies, whether they be antitoxins, lysins, agglutinins, precipitins or opsonins. The results of the recent experiments of Wright and Douglas, which were confirmed by Bulloch and Atkin, Hektoen and Ruediger and others, are certainly more in favor of the humorigenic theory of immunization, and the practical results of the "vaccination" method based thereon can perhaps be regarded as further supporting it.

We have seen that Behring considers it of importance in his method of cattle immunization that the attenuated virus is brought rapidly to those preferred points of attack of the virus, and that he had to utilize the blood current for the purpose. Whether he believes this sufficient for curative purposes in man must remain problematical until we hear more from him in this respect. Loewenstein's very recent studies[5] of experimental iris tuberculosis give suggestions in this direction, which to some extent have been already elaborated by Koch and his school. He finds that purely local infections do not bring about a formation of agglutinins, and from that he concludes that neither acute local or chronic infections (the latter being always local) can bring about an immunity, which is so easily produced in acute general infections. To treat chronic infections successfully he thinks it necessary that "other organs than those especially sensitive to the infection must be forced to absorb the specific infective bodies."

Considering once more Behring's announcement in the light of his own and other experimental studies, we are allowed to conclude that he has entered on a new line of work and that his further reports will merit great attention. On the whole, it seems that his method is based on principles, elaborated before him by others, especially Metchnikoff and E. Klebs. How much ultimately suffering mankind is to profit can not be predicted, nor can Behring's expressed, though carefully and ambiguously worded expectations, mean anything but a plausible, by him yet unproved hypothesis of a curative principle, applicable in human tuberculosis.

Special Article

THE PHARMACOPEIA AND PHYSICIANS.

CHAPTER I.

INTRODUCTION.

The Pharmacopeia of the United States of America has been the generally accepted authority and the professed guide of American medical men, in matters therapeutic and pharmaceutic, for over eighty-five years. Since the publication of the first edition, in 1820, the book has undergone eight decennial revisions and to-day it is universally accepted as being the peer of authoritative books of its kind, for its scientific accuracy as well as for the general excellence of the descriptions and directions that it contains.

This recognized superiority of the Pharmacopeia of the United States of America, in its own particular field, and its generally accepted authority, as a guide, in all matters relating to the strength and purity of the medicinal articles enumerated in its pages, is all the more remarkable in that during its long and varied career it has never been granted a general recognition by statutory enactment. This lack of legal recognition has undoubtedly been a disadvantage to the book in so far, that, in the past two decades at least, the contents and even the very existence of such an authoritative book has been largely lost sight of by American physicians, and official remedies, to a very marked degree, have been eclipsed or overshadowed by the innumerable patented and proprietary remedies that are constantly brought to the attention of medical men in the advertising material with which their offices are regularly deluged.

With a view of bringing the Pharmacopeia itself, its scope and its contents, and particularly the extensiveness as well as the comprehensiveness of the included material, more prominently before the medical profession, it is proposed to present, in a series of articles, a collection of facts and suggestions bearing on the number and the variety of therapeutic indications that may be fully met with official drugs and preparations.

It is also proposed to call attention to the unreasonable claims and the extraordinary statements that are frequently made in connection with some of the arbitrary combinations of drugs that are offered as proprietary remedies or "patent" medicines, and to compare the probable limitations of these self-styled panaceas with the possible application and the varied uses of the more simple and, therefore, more generally reliable, official remedies, the composition as well as the purity of which can readily be determined by well known and easily applied methods.

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[4] Leube's Clinic.

[5] Moeller's laboratory at Belzig.

That even the most recent, the eighth decennial, revision of the Pharmacopeia can not be said to be free from possible errors of commission and omission must be admitted, but many of the shortcomings that are usually attributed to the book are really due to the general lack of interest that has been displayed by physicians; and many, if not all, of these shortcomings should be corrected in future revisions, if members of the medical profession would but make their needs and wishes known at the proper time and place.

It has been repeatedly asserted that the Pharmacopeia of the United States, as such, is designed primarily for pharmacists and for the manufacturers of pharmaceutical galenicals, and that it contains little or nothing of direct interest to the physician. One of the prime objects of this series of articles will be to demonstrate that this assertion embodies only a half truth and that the present edition of our national Pharmacopeia really contains much that does, or at least should, interest every medical practitioner in the land.

In this connection it should also be remembered that the technical descriptions and tests for which the average physician may think he has little or no use, are in reality essentially important in securing for him, and through him for his patients, remedies that are not only reliable, but which are also uniformly active.

As an introductory to this proposed series of articles, it may be permissible to give a brief review of the history of our national Pharmacopeia and incidentally to call attention to at least some of the various causes that have led up to the present widespread use of proprietary medicines and nostrums. To do this it will be necessary to call attention to some of the shortcomings of our Pharmacopeia, from a medical point of view, and to refer to at least several of the attempts that have been made to correct these shortcomings by offering either a substitute book or by introducing more or less radical changes in the book itself.

During the colonial period, and even during the first three decades of the independence of the United States, the pharmacopeias, or the dispensatories that were based on the pharmacopeias of Edinburgh, London and Dublin, in the order given, were practically the only authoritative books on materia medica known in this country.

A rather notable exception is to be found in the small pamphlet, of 32 duodecimo pages, containing 100 titles, that was published as "A Pharmacopeia for the use of the Military Hospital belonging to the Army of the United States," during the Revolutionary period. The first edition of this little book was published in 1778 and a second edition, bearing the name of Dr. William Brown as editor, was printed in 1781.

The earliest known attempt to produce a distinctly representative American Pharmacopeia was made by the members of the College of Physicians, who, June 1, 1788, appointed a committee of eight members to form a pharmacopeia for the use of the college. The members of this committee, being desirous "that the work should be accommodated to the practice of medicine throughout the United States," continued the preliminary work and correspondence for over ten years, but finally allowed the project to languish.

Recognizing the need for a more distinctly American book, Dr. J. Redman Coxe, of the University of Pennsylvania, in 1806, published what was practically a reprint of Duncan's Edinburgh Dispensatory, under the title of "The American Dispensatory." The next American publication, in point of time, was the Pharmacopeia of the Massachusetts Medical Society, published in 1808, and this was followed in 1810 by Dr. James Thacher's American New Dispensatory, also published in Boston. These books supplied two of the then existing medical centers, and the territory more or less dependent on them, with reference books on materia medica, of American origin. The territory more directly dependent on New York City was in a measure supplied by the publication of "The Pharmacopeia of the New York Hospital," in 1816, and the subsequent publication, in 1818, of an American reprint of the Edinburgh New Dispensatory. This rapid multiplication of authoritative books appears to have been unsatisfactory and no doubt led to the revival of the project, proposed many years before, of forming a truly national pharmacopeia.

American physicians, and particularly the leaders in American medicine, have contributed so little to the evolution or advancement of the Pharmacopeia of the United States of America, during recent decades, that, no doubt, it will be interesting, if not surprising, to many, to be reminded of the fact that the inception as well as the inauguration of the Pharmacopeia is to be accredited to the leading minds in the medical profession of this country, eighty or more years ago. It was at a meeting of the New York County Medical Society, in January, 1817, that Lyman Spalding suggested the first practicable plan for securing a national pharmacopeia. At the annual meeting of the Medical Society of the State of New York, held at Albany, in February, 1817, the same plan was discussed and a committee was appointed to consider the necessary details and to report at the next annual meeting. The report of this committee being in favor of the proposed plan, the society, in 1818, appointed delegates to meet in district convention, for the purpose of forming a pharmacopeia. Of the members of the New York State Medical Society who took an active part in forming this first national pharmacopeia it may be well to mention the names of Lyman Spalding, Samuel L. Mitchill, David Hosack, Valentine Mott, T. Romeyn Beck, Wright Post and Alexander H. Stevens. Other members of the profession were hardly less enthusiastic. In Boston the proposed plan received the earnest support of John C. Warren, Jacob Bigelow, James Thacher and George C. Shattuck. In New Haven it was endorsed by Eli Ives, William Tully and Nathan Smith; in Baltimore by Elisha DeButts, Samuel Baker and Nathaniel Potter, while in Philadelphia, Thomas T. Hewson, Samuel P. Griffiths, Thomas C. James, Edwin A. Atlee and Joseph Parrish, all of them active and influential members of the College of Physicians, gave the plan their unqualified support and endorsement.

On Jan. 1, 1820, the first General Medical Convention was convened at the Capitol, in the City of Washington, for the purpose of preparing and publishing a national pharmacopeia. The convention was organized by electing Samuel L. Mitchill, New York, president, and Thomas T. Hewson, Philadelphia, secretary. The necessary details connected with the preparing, publishing and editing of the proposed pharmacopeia were entrusted to a committee composed of Drs. Lyman Spalding, Thomas T. Hewson, Eli Ives, Elisha DeButts and Jacob Bigelow. The copyright of "The Pharmacopeia of the United States of America" was subsequently sold to Charles Ewer, of Boston, "for a large sum" and the book was finally published under date of "Dec., 1820."

This completed pharmacopeia, although prepared and edited by a committee of the most prominent medical men of the day, and printed in Latin, as well as in English, was soon found to be "in its nature too circumscribed and technical" for the use of physicians.

To overcome this necessarily objectionable feature and to popularize the book and its contents with medical practitioners, Dr. Jacob Bigelow, a well-known medical writer and one of the editors of this first national pharmacopeia, in 1822, published what he was pleased to term "A Treatise on the Materia Medica, Intended as a Sequel to the Pharmacopeia of the United States, Being an Account of the Origin, Qualities and Medical Uses of the Articles and Compounds which Constitute that Work, with Their Modes of Prescription and Administration." This book, practically a pharmacopeia for physicians, appears to have met with considerable popularity, and the well-worn pages of the still existing copies of the book certainly appear to bear evidence to the fact that they were frequently consulted.

That a pharmacopeia, consisting largely of a simple enumeration of drugs with detailed directions for the several medicinal preparations, could not be expected to appeal to the medical profession, and that, unless such a book was well known to the individual members of that profession, it would have little or no reasonable excuse for its existence, appears to have been clearly appreciated by the members of the medical convention that met in the city of New York in January, 1830, for the purpose of revising the pharmacopeia.

The members of this convention decided to, and subsequently did, introduce several really novel features into this first revision that are only now, three-quarters of a century after the publication of the book, being revived and discussed. In addition to having short descriptions of the physical properties of drugs, both whole and powdered, this Pharmacopeia also included doses, and, what is even more, also included short, suggestive remarks on the "Medicinal Operations" or therapeutic properties of the several drugs that were included in the text.

For some unknown, certainly unforeseen, reason there appears to have been a misunderstanding in regard to the method of electing delegates to attend the General Medical Convention, and at least a portion of the delegates from the Middle States did not attend the convention in New York, but decided to hold a convention of their own in the city of Washington. As a direct outcome of this opposition convention we have another, "first" revision of the national Pharmacopeia, published in Philadelphia in 1831.

This 1830, Philadelphia revision of the national Pharmacopeia, as it is generally known, was continued along practically the same lines as the original pharmacopeia published in Boston in 1820 and did not appear to meet with the use and sale among physicians that its authors might reasonably have expected or desired.

To popularize this edition of the pharmacopeia, and also to furnish American medical practitioners with a convenient handbook on therapeutics, two of the younger members of the committee on revision, Drs. George B. Wood and Franklin Bache, decided to prepare and to publish a commentary on the national Pharmacopeia. This book, known as the "Dispensatory of the United States of America," first published in 1833, met with instantaneous and really phenomenal success. Three editions were sent to press within as many years and the book rapidly displaced the Pharmacopeia itself with both physicians and apothecaries, and led to the rather anomalous condition of having a commentary that was generally accepted as being more popular and, therefore, more important than the Pharmacopeia itself.

For more than fifty years the Pharmacopeia occupied such a secondary and comparatively unimportant position to the Dispensatory that it was generally asserted that it would be practically impossible to have the Pharmacopeia published apart from the Dispensatory. Fortunately the authors of the Dispensatory were men of exceptionally high ideals and for over fifty years were the leading contributors to the advance and progress of the Pharmacopeia itself.

That the unrelenting hand of time brings changes that stay progress was evidenced in 1876, when Dr. E. R. Squibb, of Brooklyn called the attention of the members of the American Medical Association to the fact that the then official Pharmacopeia could not be said to represent the existing status of the practice of medicine and pharmacy. Dr. Squibb also pointed out that, owing no doubt to the death of one of the editors of the United States Dispensatory, Dr. Franklin Bache, and the very advanced age and practical retirement of Dr. George B. Wood, that book had not been carefully revised, or brought up to date, and, therefore, that the medical profession was entirely devoid of any authoritative work on materia medica and pharmacy.

To overcome the evident stagnation that had crept into the revision of the national Pharmacopeia, at that time, Dr. Squibb proposed that future revisions be undertaken by and conducted under the supervision of the American Medical Association. This latter proposition met with such active and bitter opposition, however, that in 1877 future consideration of this project was indefinitely postponed.

During the decade immediately following this discussion, there arose a number of additional factors to detract from the popularity and from the general use of the national Pharmacopeia. Not the least of these is to be found in the innovations that were included in the 1880, sixth decennial, revision of the Pharmacopeia itself. This is a subject that is more of pharmaceutic than therapeutic interest, however, and its further consideration may be omitted at this time.

One other factor, and not by any means an unimportant one, from an economic point of view, was the introduction of German synthetic chemicals, and the accompanying scramble for publicity by ambitious, professedly up-to-date medical practitioners in the reading pages of our medical journals.

Kairin, the first of these synthetic products to reach us, was introduced in 1883, and soon proved to be not only unreliable, but positively dangerous. It was followed, in 1884, by antipyrin, which met with phenomenal use and added untold wealth to the coffers of the manufacturer. The commercial success of this substance stimulated others to renewed activity, and in the succeeding years American physicians were deluged by an immense number of really useful, as well as positively dangerous, true and fictitious, synthetic remedies, to say nothing of the untold hundreds of elegant pharmaceuticals, all of them lauded and exploited as new remedies.

This rapid accumulation of true, as well as of pseudo, new, remedies appears to have had a stimulating effect on the editors of the several dispensatories and text-books on materia medica and therapeutics. These books rapidly grew in size and weight and also in the variety of the contained material until the official or pharmacopeial portion was lost in the superabundance of wonderful cures and remedies that were offered for the alleviation of the ills and ailments of the human family. Added to all this plethora of new remedies, there appeared a growing feeling in favor of therapeutic nihilism until it was quite proper for a physician to disclaim all knowledge of the use of drugs and boldly to assert that he was entirely independent of the necessity for such really antiquated measures as drug therapy.

The publication of the 1890, or seventh decennial revision, of the national Pharmacopeia offered or suggested but little change in the then existing conditions other than to reintroduce the long-established English practice of measuring liquids and weighing solids. Even this concession did not appear to have the desired effect of popularizing the Pharmacopeia. This no doubt was due largely to the fact that pharmacists are proverbially slow in adopting new ideas, and physicians are even slower, or are loth to insist on rational innovations being adopted wherever practicable.

With the advent of the new century, there appears to have been a re-awakening on the part of the members of the medical profession, at least, and the interest that has been manifested in the work of the Council on Pharmacy and Chemistry of the American Medical Association, the articles that have appeared in lay journals on the abuse of nostrums by the laity and, last but by no means least, the comments that have appeared in medical journals on the contents of, and the changes that have been made in, the recently issued eighth decennial revision of the Pharmacopeia of the United States of America all bear evidence to the existence of a healthy spirit of inquiry among medical practitioners in this country.

As noted before, it is to foster and to aid this spirit of inquiry and to present what, at times perhaps, may be seemingly elementary information on a well-known subject, that this series of articles has been designed. If they but tend to make the members of the medical profession more familiar with at least some of the numerous drugs and preparations that are included in the pages of our national Pharmacopeia the time that has been devoted to their preparation will not have been spent in vain, or the space in these columns wasted.

The Local Use of Tetanus Antitoxin.—An employé of the Behring Institute at Marburg, who had had tetanus twice, was accidentally inoculated in the right hand with a virulent culture of tetanus. Kuster of Marburg reports in the *Wiener klin. therap. Wochschr.* that the wound was washed and treated with antitoxin, but marked tetanus of the right arm soon ensued. The axilla was then laid open and all the nerve stems thoroughly injected with tetanus antitoxin. In twelve hours the stiffness of the arm musculature had disappeared and only a slight temporary trismus remained, due perhaps to a small amount of the toxin having been carried to the spinal cord before the blocking off in the nerve trunks.

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THE PHYSICIAN AND THE PHARMACOPEIA.

It is easy to pull down, but difficult to build up.

A fool can destroy; it usually requires a genius to create.

Destructive criticism accomplishes little, often reacts and does an injury to whatever the cause may be.

Calling attention to a harmful condition of affairs, without exaggeration, and at the same time suggesting a means whereby the harmful conditions may be improved, usually brings about a better state of affairs; it never makes them worse.

For some months we have been calling attention to the nostrum evil, occasionally specifying, by name, articles that are for one reason or another fraudulent and mentioning individual firms who are deliberately deluding members of our profession by exploiting through them articles that are nostrums in the worst meaning of the word. This we shall continue to do.

We have also been calling attention to the deplorable condition that has developed by allowing unprincipled promoters—the larger number of whom know little of medicine, pharmacy or chemistry—to blight our therapeutic literature by polluting it with false or misleading statements, extravagant claims, and by publishing valueless testimonials obtained from credulous and ignorant or unthinking physicians. This, also, we shall continue to do.

All this might be called destructive criticism, and probably if we stopped at this we should accomplish little of permanent value. Construction as regards the good, as well as destruction of the bad, must be the aim. A general condemnation of all proprietary medicines is not wise and is liable to produce a species of therapeutic nihilism in a few and to have the opposite effect on the many. (However, we are not in this country suffering from too much therapeutic nihilism; the proprietary medicine men—even those who have honest, non-secret, commendable products must be included—have generously supplied us with literature so overly colored with hopefulness that it has developed a therapeutic optimism that is much more baneful than any therapeutic nihilism could be.)

Proprietary medicines,[1] as such, are not to be condemned. Some are valuable additions to our materia medica and represent advanced knowledge in chemistry, as well as in pharmacy. Those preparations, whether patented or not, which accord with the principles contained in the ten rules adopted by the Council on Pharmacy and Chemistry of the American Medical Association will be described and the description published to the profession in due time.

But something more must be done than simply to condemn the bad and to recognize the good if the present conditions are to be changed. It is repeatedly stated—and there is no doubt of the truth of the statement—that medical practitioners are incompletely prepared either to see the fallacies of the promoter's optimism or to prescribe easily for every condition without leaning on the crutches of ready-made mixtures. There is need of education here, and this education must reach both those who are about to enter our profession and those now in active practice. The young men who are now in medical colleges must at least be taught how to write prescriptions, and they should be warned of the wiles of the nostrum vendor before they are given the privilege to practice medicine, even though pathology and bacteriology have to be neglected. Then, too, something must be done to counteract on those now in active practice the influence of the too-often erroneous literature of the nostrum exploiter, as well as that of the smooth-voiced, oily-tongued, well-trained "detail man," who knows so well how to bamboozle and cajole the unwary and uninformed doctor. Further, we must recognize the fact that most of us need educating over again as regards our method of prescribing. If we are to give up using nostrums, and if we are to refuse to accept our therapeutic literature from those who are making fortunes from our acting as unpaid peddlers of such articles, we must learn what we can substitute for them and must obtain our therapeutic hints from other sources.

With the object of helping to solve one phase of the problem, The Journal proposes to present to its readers a series of articles on the relation of the physician to the Pharmacopeia. The character of these articles is outlined in the introduction which appears this week. We feel sure that they will enlighten us regarding official remedies, which have been sadly neglected by our medical schools, by medical journals, and even by authors of text-books. They will show that in the Pharmacopeia we have such a wealth of therapeutic agents that there is no real necessity for using anything not official; at least that there is no necessity for using nostrums. The basis of these articles is the Pharmacopeia, and, except incidentally, only official drugs will be discussed. In the near future the proprietary preparations which have been indorsed by the Council on Pharmacy and Chemistry will be published, probably first in The Journal, in a series of articles to follow those now begun on the official preparations.

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[1] See page 1889.

THE NEW ORLEANS IMBROGLIO.

The entire state board of health of Louisiana has resigned, including the president, Dr. Edmond Souchon. Following the submission to Governor Blanchard of their report on the epidemic of yellow fever, it is said that the governor announced that he wanted an investigation of the circumstances responsible for the entrance of yellow-fever infection. He expressed the intention to ask a grand jury to determine who, if any one, had failed to do his duty. Thereon the board resigned. In its report the board concludes that it is not possible to decide the source of the original infection, but it presents probable hypotheses. It points out that in July a physician at Gulfport, Miss., was fined for reporting a doubtful case of yellow fever, though many cases subsequently developed in Gulfport, and though Governor Vardaman later severely scored physicians who did not promptly report cases. "Ship Island [quarantine station] is close to Gulfport; so is New Orleans, and the inference is obvious." Colon and Havana are suggested as possible sources of infection, as are Bocas del Toro, Belize and Port Cortez. The board suggests that the officers of our Public Health and Marine-Hospital Service stationed at Belize and Cortez did not learn of yellow fever at those ports until several weeks after the early cases occurred. Complaint is made that the Surgeon General of the Public Health and Marine-Hospital Service did not order the fumigation of empty vessel holds at infected Colon until requested to do so in June by President Souchon. It is pretty squarely charged that Havana concealed cases for months, and Cuba's quarantine system is declared to be a farce. It is also alleged that early in the summer one man twice came from infected Vera Cruz and entered Texas at Laredo without any difficulty. It is recommended that the quarantine season be advanced to begin on March 1, and that the detention period be made six days instead of five.

"The State Board of Health positively denies the statement of Dr. Kohnke in his official report" that he informed the board of suspicious cases early in July. Dr. Souchon says he received the first news of cases from physicians and notified Dr. Kohnke, and Dr. Kohnke, in his report as published, makes the same statement. In justification of its course the board makes one plea that carries weight. From the day when the first suspicious case was reported several days had to elapse before a positive diagnosis could be made, and to announce prior to demonstration that yellow fever existed would have thrown business into useless turmoil.

In our issue of two weeks ago it was noted that the chief count in the indictment brought against the Louisiana health officials by the public, and especially by the Mississippi authorities, was the fact that reduced-fare railroad excursions into New Orleans from neighboring towns and states on July 19 were permitted without warning of danger to bring great crowds into an infected city. This is based on the fact recorded by Dr. Souchon and Dr. Kohnke that the first suspicious cases were reported on July 12 and again on July 15. Dr. Souchon reports that he saw two cases on July 18 at the Hotel Dieu "presenting symptoms of yellow fever." He called a meeting of the state board of health for July 19 (the very day the excursionists were in the city), at which meeting a resolution was passed "instructing President Souchon to write to Dr. Wyman, Dr. Tabor of Texas, Dr. Hunter of Mississippi, and Dr. Sanders of Alabama that there were cases here presenting symptoms of yellow fever, and also to wire them to expect a letter by to-day's mail." The first positive diagnosis confirmed by autopsy findings was made on July 22.

So far as present information goes, therefore, it is impossible fairly to charge the Louisiana authorities with deliberate concealment. Of course, it was the very acme of unfortunate mischance that a popular excursion to New Orleans should have been run during the very days when the diagnosis necessarily was in doubt. Mere suspicion of infection would not have justified the alarm aroused by canceling the excursions, nor is there the least evidence that the authorities knew that the infection was sufficiently widespread to endanger the excursionists of a day. Of course, it is also only too evident that the real early cases, those during May and June, were not reported to the authorities nor found by inspection. In part this was due to the misleading mildness of the atypical first cases and to the consequent and wholly excusable failure of diagnosis, but, it is to be feared, in further part to concealment of cases by a few physicians practicing among the Italians.

In New Orleans, as elsewhere in this country, the public and the authorities have not secured effective *sanitary organization*, with all its requirements and restrictions. From this defect in preparation as the fundamental factor arise such controversies as the present one in New Orleans. This one could have been avoided had the community heeded the pleadings of Dr. Kohnke, three years previously, that scientific preparations be made to meet a possible yellow-fever infection.

PHYSICIANS IN RELATION TO PUBLIC HEALTH WORK.

Dr. Wesbrook[1] emphasizes the difficulties in the way of securing adequate care for the public health, and suggests certain remedies for the difficulties in regard to the value of which there is little or no room for difference of opinion. We wish to lay special stress on the service that medical men in general may render public health by at all times upholding the need of special training and expert knowledge in this branch of public work, not only on part of laboratory men, but also on the part of health officials, state and municipal. Most of these officers are appointive, and many no doubt often conscientious executives appear to believe that any reputab physician is fully competent to be commissioner of health of a city or secretary of a state board of health. This is a dangerous tendency that frequently robs the public of the full benefits of modern public health science. It is self-evident that the person who is to direct the sanitary activities, with their numerous ramifications in different directions, of a great city or of a whole state can not do so properly if he has been largely out of touch with the recent development of public health science, as necessarily must be the case with the physician whose time and energy are devoted to medical practice in the usual sense. Indeed, we doubt whether physicians thoroughly appreciate the great growth of this science in recent years. Dr. Wesbrook's address gives us some idea of this growth, with its corresponding specialization. We observe that it is quite impossible for one man to be expert in all the branches of science concerned with public health; the most that can be expected is that he has a broad basis of general knowledge on which he has specialized in some particular direction. Now our appointing powers must be thoroughly informed of this new order of things in the hope that specialization in public health science may be better appreciated and the public welfare promoted.

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[1] See page 1835.

While physicians advance public health through their advice, their rules and their example, it is very important indeed that they should fully recognize the tremendous importance to the prevention of acute communicable diseases that outbreaks of these diseases be recognized early. This means an early and correct diagnosis. In scarlet fever and smallpox it is doubtful whether laboratory methods as yet can aid in diagnosis except by way of exclusion, but in several other infectious diseases, notably typhoid fever, cholera, dysentery, these methods may be the means of settling the diagnosis before the clinical picture has become so characteristic as to remove all doubt. Hence physicians should not hesitate in doubtful cases of probable infection to call on the municipal or state laboratories for help. It is to be feared that in many cases apathy, and neglect to utilize the means at hand, lead to delay in the diagnosis of infectious and communicable diseases. Increased knowledge and increased facilities for prompt work lead to increased responsibility on part of the physician who now no longer can afford to take any chances with the mild case of suspicious throat diseases or of possible typhoid.

Of course, Dr. Wesbrook's suggestion in regard to a traveling laboratory is an excellent one, but we believe that there is and always will be great need for fully equipped local laboratories arranged to meet the needs of larger and smaller districts. Certainly every city of 10,000 and upward should have its own laboratory, just as well as its own hospital. While the practical management of these local laboratories remains to be worked out, there is no question but that one of the great needs of practical medicine and public health now is to bring modern means of exact diagnosis as near to the door of [illegible] private practitioner as possible.

MULTIPLE PRIMARY MALIGNANT TUMORS.

Among the striking characteristics of tumor growth that are of importance in considering the various theories of tumor causation is its specific unity. A tumor begins to grow in one place at one time with so few exceptions that this unity may be considered as a rule of growth. A tumor may grow in an organ containing several types of tissue, but only one of these types assumes malignancy, and this one alone persists malignant until the end. A tumor in the breast may start from the epithelium and form a carcinoma, or it may start in the connective tissue and form a sarcoma, but as yet no one has described a tumor of the breast that started from both structures and was a mixed "sarcocarcinoma." The carcinoma may produce secondary growths in a strictly connective-tissue structure, for example a vertebra, but the secondary growth will still, without a single known exception, be a carcinoma. If the sarcoma produces secondary growths in an epithelial organ, say the liver, the secondary growths will invariably be sarcomas. The cause of sarcoma must, then, be looked on as having a specific nature, so specific that it can not produce a carcinoma even when in a place where the epithelial elements vastly predominate; the cause of carcinoma must be equally specific.

Of such significance is this rule of growth that the question of its exceptions becomes of great importance. How often and under what conditions do primary tumors occur simultaneously in different places in the same individual, and how often do primary tumors of different natures occur in the same place at the same time, forming a tumor composed of two sorts of malignant tissue at once? Occasionally reports have been made of cases of multiple primary tumor formation in which the individual has had distinct primary growths arising in different places either at one time or at different periods of time. Usually both tumors are of the same character, and generally they are carcinomas. One of the most commonly observed of these is the formation of independent skin carcinomas on different portions of the body, particularly in the aged. Nehrkorn has even observed three such independent primary growths in different portions of the intestinal tract in which the histologic structure was so distinct as to guarantee the independence of the growth—for example, a squamous cell carcinoma of the esophagus and a cylindrical cell carcinoma of the stomach. Van Hansemann was able to collect but twenty-two cases in the literature in which patients had had a carcinoma in one part of the gastrointestinal tract and another in some other part of the body at the same time, and in none were more than two primary growths observed. In spite of their close functional relation, however, and the frequence of primary tumors in each organ, only two or three cases have been reported in which a patient suffered with carcinoma in the uterus and in the mammary gland at the same time. There are more instances of simultaneous growths in the uterus and ovaries, but the ease of extension and metastasis from one to the other makes these cases more uncertain. The same difficulty exists in the cases of apparent primary carcinoma and sarcoma of both ovaries, of which many have been reported.

The simultaneous occurrence of carcinomas and sarcomas is even less frequent, particularly if we exclude a number of the cases of such tumors in the uterus or ovaries, in which the observers have evidently been misled by the peculiar sarcoma-like character of the cells of the stroma of the ovary and submucosa of the uterus. The most valuable of these cases are those in which separate metastases of sarcoma and of carcinoma have been found, and of these there are less than half a dozen. Such a case is that reported by Grawitz, the patient being a woman of 67 years, who, in addition to several benign myomas of the uterus, had a sarcoma of the uterus and a carcinoma of the small intestine, each of which had produced metastases of its own kind in other organs.

Most interesting of all are the tumors which contain both sarcomatous and carcinomatous elements in the same primary growth. If we consider the relation of prolonged irritation to the production of malignant proliferation of cells, we might reasonably expect, from this cause alone, that the rapidly-growing, irritated and inflamed stroma of a carcinoma might take on proliferation of a malignant type. Or if we consider Cohnheim's theory that tumors arise from misplaced nests of embryonal tissue, and that most of such nests (e. g., adrenal nests in the kidney) contain both epithelial and connective tissue structures, we might expect that both types would take on malignant proliferation at the same time. In spite of both of these possibilities, however, such primary mixed tumors are among the rarest of occurrences—there are scarcely a dozen cases reported. For some unknown reason they are most frequently present in the thyroid, and hence have usually been secured as surgical specimens by operation. Perhaps on this account in but one of these cases has the final conclusive evidence of dual nature been shown; that is, the production of metastases containing both types of cells. This was a "sarco-carcinoma" of the thyroid of a dog, reported by Wells,[1] which produced metastases of pure carcinoma, pure sarcoma, and of the mixed sarco-carcinomatous tissue. Other cases of sarco-carcinoma have been reported in this country—in the white rat by Leo Loeb[2] and in the human thyroid by Wooley.[3]

If we try to secure light on the theories of tumor etiology from these observations, we do not find the illumination a very clear one. Only the distinctly specific nature of carcinoma and sarcoma stand forward; that so few mixed or multiple growths have been examined shows that the cause of carcinoma is probably quite distinct from that of a sarcoma. This fact might be interpreted equally well in favor of the idea of a specific parasite, or of the theory of an inherent, fundamental change in the process of cell multiplication—the two prevailing theories. That multiple primary tumors are so rare surely controverts the theory of a "tumor diathesis" and also, to some extent, speaks against the idea of hereditary influence; the laws of chance would account for the small number of cases that have been reported. Grawitz considers that the infrequence of multiplicity speaks against an infectious origin, an idea with which we can scarcely agree, for how often do we have primary simultaneous infections of different organs by pathogenic bacteria?

In considering unusual pathologic conditions, such as these mixed tumors, a point of regret to the pathologist is that the great majority of such cases do not get into the literature. It would probably be safe to estimate that there occur a score of cases of multiple primary malignant tumors for every one that is reported. They are recognized by physicians frequently enough, and perhaps talked over among colleagues, but, not being recorded in the literature, their chief value is lost. No one man can have a large enough acquaintance with the rarities of pathology to draw safe conclusions from them. It is necessary to collect a large number of individual experiences to make deductions, which in many instances are of great importance in matters that are not uncommon. It is, therefore, a very real duty of every physician to make his own observations on unusual matters available to others. A careful report of any of the unusual conditions personally observed has a more permanent worth than a score of articles which contain merely reflections resulting from considering the writings of others, no matter how well presented and how instructive they may be. The man who has a case of acromegaly, or of acute yellow atrophy, or carotid gland tumor, or of blastomycosis, or of any of the other important but rare diseases, and does not make the facts available to others, is committing a sin of omission.

BEHRING'S NEW REMEDY FOR TUBERCULOSIS.

The summary by Dr. Klebs, in this issue, of Behring's address at the International Congrès for Tuberculosis gives us as clear an idea as at present attainable of the real gist of this matter. Shorn of bewildering detail and ambiguities, Behring's method consists in the use, for protective and curative purposes, of certain otherwise harmless constituents of the tubercle bacillus. The method appears to be a natural outgrowth of the successful immunization of cattle against bovine tuberculosis by means of injections of human and other varieties of tubercle bacilli. The introduction of living tubercle bacilli into human beings is not practicable and consequently it became necessary to try to secure the immunizing and possibly also curative substance or physician is fully competent to be commissioner of health of a city or secretary of a state board of health. This is a dangerous tendency that frequently robs the public of the full benefits of modern public health science. It is self-evident that the person who is to direct the sanitary activities, with their numerous ramifications in different directions, of a great city or of a whole state can not do so properly if he has been largely out of touch with the recent development of public health science, as necessarily must be the case with the physician whose time and energy are devoted to medical practice in the usual sense. Indeed, we doubt whether physicians thoroughly appreciate the great growth of this science in recent years. Dr. Wesbrook's address gives us some idea of this growth, with its corresponding specialization. We observe that it is quite impossible for one man to be expert in all the branches of science concerned with public health; the most that can be expected is that he has a broad basis of general knowledge on which he has specialized in some particular direction. Now our appointing powers must be thoroughly informed of this new order of things in the hope that specialization in public health science may be better appreciated and the public welfare promoted.

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[1] Jour. of Pathol. and Bacteriol., June, 1901.
[2] Amer. Jour. Med. Sci., February, 1903.
[3] American Medicine, 1902, Aug. 30, p. 331.

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In considering unusual pathologic conditions, such as these mixed tumors, a point of regret to the pathologist is that the great majority of such cases do not get into the literature. It would probably be safe to estimate that there occur a score of cases of multiple primary malignant tumors for every one that is reported. They are recognized by physicians frequently enough, and perhaps talked over among colleagues, but, not being recorded in the literature, their chief value is lost. No one man can have a large enough acquaintance with the rarities of pathology to draw safe conclusions from them. It is necessary to collect a large number of individual experiences to make deductions, which in many instances are of great importance in matters that are not uncommon. It is, therefore, a very real duty of every physician to make his own observations on unusual matters available to others. A careful report of any of the unusual conditions personally observed has a more permanent worth than a score of articles which contain merely reflections resulting from considering the writings of others, no matter how well presented and how instructive they may be. The man who has a case of acromegaly, or of acute yellow atrophy, or carotid gland tumor, or of blastomycosis, or of any of the other important but rare diseases, and does not make the facts available to others, is committing a sin of omission.

BEHRING'S NEW REMEDY FOR TUBERCULOSIS.

The summary by Dr. Klebs, in this issue, of Behring's address at the International Congress for Tuberculosis gives us as clear an idea as at present attainable of the real gist of this matter. Shorn of bewildering detail and ambiguities, Behring's method consists in the use, for protective and curative purposes, of certain otherwise harmless constituents of the tubercle bacillus. The method appears to be a natural outgrowth of the successful immunization of cattle against bovine tuberculosis by means of injections of human and other varieties of tubercle bacilli. The introduction of living tubercle bacilli into human beings is not practicable and consequently it became necessary to try to secure the immunizing and possibly also curative substance or substances in sterile form, and this it is that Behring indicates that he believes he has succeeded in doing.

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[1] Jour. of Pathol. and Bacteriol., June, 1901.

[2] Amer. Jour. Med. Sci., February, 1903.

[3] American Medicine, 1902, Aug. 30, p. 331.

In this work Behring follows paths already broken in the efforts to obtain protective and curative substances from tubercle bacilli, as well as from other bacteria. E. Klebs has maintained for years that tubercle bacilli contain a curative element. Some of the earliest successful immunizations against tuberculosis were accomplished by Trudeau, de Schweinitz and others in this country. In recent years much effort has been given also to obtain in as pure form as possible the substances of cholera, pest, typhoid and other bacteria that give rise to immunity in susceptible animals in order to develop practical methods of preventive inoculation, and considerable progress has been made in this respect.

Translated into the terms of present-day immunology, the various ideas expressed as to the mode of action of "the curative element" of the tubercle bacillus, one would say that tubercle bacilli, like pathogenic microbes in general, contain certain elements or antigens which, when introduced into suitable animals, may give rise to cellular reactions, leading to the formation of specific antibodies of various kinds and possibly to the development of a kind of cellular immunity, the nature of which we do not now understand. Concerning these antibodies little is yet actually known, but there is some reason to believe that bodies concerned in phagocytosis are of particular importance.

With the scanty information now at hand it is easier to understand the protective than the curative action of Behring's "TC" or tubercle antigens. One may conceive, however, that the injection in the infected organism, at a favorable period, of considerable quantities of antigens would stimulate and hasten the reactions that tend to natural healing, which we know occurs in a large per cent. of infected persons after a certain age. But at this juncture the advice given by Hunter to Jenner seems peculiarly applicable: "Don't think, but work!"

RATIONAL SANITATION.

In a very readable article in *Leslie's Weekly* for November 23, Surgeon J. H. White, United States Public Health and Marine-Hospital Service, who was in charge of the victorious fight against yellow fever at New Orleans, outlines the lessons of the epidemic. The chief one is in his title: "No more shotgun quarantines for yellow fever." The task faced in New Orleans this year was much more formidable than that at Havana in 1901. In the matter of sewers, water supply and dwellings New Orleans was in worse condition, while Havana had a docile population accustomed to military rule. A sane and rational quarantine admits any one from any where after six days' observation, and freely admits persons in good health who can prove that they have not been in an infected locality. Many persons from infected towns were openly admitted to New Orleans, but none of them gave rise to further cases. All that is necessary, in fact, is to know just where each entrant resides, so that surveillance can provide for prompt isolation, screening and fumigation. "A case of yellow fever known is a case of yellow fever extinguished." Dr. White thinks "that train infection is a myth." About 100 Mississippi guardsmen for sixty days traveled back and forth from New Orleans to the Alabama-Mississippi line in the same cars with New Orleans passengers, but not one guardsman was infected. He believes "that the infector, the *Stegomyia fasciata*, remains very close to the point where it receives its infection, and that for all practical purposes the disinfection of the houses themselves will result in the elimination of the infection in nine hundred and ninety-nine cases out of a thousand."

A UNITED PROFESSION IN NEW YORK.

According to a telegram received as we go to press, at a special term of the Supreme Court, held in Rochester, December 9, Judge Davy signed the order consolidating the Medical Society of the State of New York and the New York State Medical Association. This, as we understand it, removes the last technical obstruction to the uniting of the two state bodies. The members of the county societies become members of the district branches and of the state society, and thus the new body contains a membership of over 6,000. As we understand it, the new constitution and by-laws of the old state society become effective immediately, but until the county societies have elected delegates to the house of delegates to the state society the management will be carried on by the state officers and the chairmen of standing committees. Thus the movement that was started nearly four years ago has finally accomplished the object for which it was started. Since January, 1902, the committees representing the two bodies have been constantly at work arranging details and overcoming legal and other obstructions. The committees are certainly to be congratulated on the result of their work, and should have the thanks of the profession not only of New York, but of the whole country. A reunited profession will celebrate the hundredth anniversary of the organization of the Medical Society of the State of New York at the annual meeting to be held next month in Albany.

FOOD-STORAGE REFORM.

A bill which was introduced at the last session of the New York Legislature, but which failed to pass, is to be again introduced at the coming session. It provides for the prohibition of the storage of poultry or game in an undrawn condition and the sale of such to the public. Attention has been called to the many cases of toxin infection from eating game and poultry which has been stored in an undrawn state. Naturally, the bill will be resisted by powerful interests, but it ought to pass. The idea of eating fowls which have been hung up in storage for indefinite periods with decomposing viscera unremoved, is not esthetically attractive, and public opinion and requirements ought to be easily molded against such practice, even if the very evident sanitary conditions have less weight.

THE "DRUMMER" EVIL AT HOT SPRINGS.

It appears to be a fact that, in spite of the United States control of the Hot Springs reservation, the old evils there still exist. It has become one of the great health resorts of the country, but for some reason, perhaps for the lack of sufficient legislation by Congress or the state legislature, or lack of sufficient power on the part of the authorities to enforce existing enactments, the drummers and quack doctors are still in evidence and the commercialism and graft that were before notorious are still in full sway. The leasing of the privileges by the government under present regulations is held by some to be responsible for this. As far as the general government is responsible for matters at Hot Springs, it is its duty to make and to enforce such rules as will bring about a better state of affairs. If legislation by Congress is necessary it should be attended to at once. If the cession of state control is not sufficiently complete the people of Arkansas have also a duty in the matter. The continuance of the old state of affairs, as alleged, is a credit to no one.

TREATMENT OF ARTERIOSCLEROSIS.

While it can not be denied that heredity is a not unimportant factor in the development of arteriosclerosis, still it must be admitted that not less significance is to be attached to the exciting factors, namely, strain, infection and intoxication. The effects of the former are not readily averted, although something can be done in this direction, while numerous prophylactic measures may be instituted to exclude the latter. The disease of the vessels must be looked on as a response of the tissues to various irritants, and in its prevention effort must be directed to strengthening resistance and to avoidance and removal of undue stimulation. Even when developed the disorder is not wholly unamenable to therapeutic intervention. At least its effects can be ameliorated in part and its further progress retarded. Great usefulness in this direction is claimed by Dr. E. Hirschfeld[1] for the systematic employment of hot baths, from which he has obtained favorable results during a period of two and a half years. Precision in application is essential to success. The reactivity of the individual patient must first be determined. If the patient be a male not above 55 or 60 years of age, the bath may be begun at a temperature of 102 degrees. The immersion should not, as a rule, be continued for less than ten minutes. On the other hand, the treatment should not be undertaken unless the left heart be sound and the vascular pressure good. In general, though not without qualification, it may be said that the hot bath is likely to do good when digitalis is contraindicated, and conversely. The good effects of the hot bath in the treatment of arteriosclerosis are to be attributed (1) to a reduction in blood pressure by unloading the internal organs and increasing the supply of blood to the skin; (2) to increased combustion, as indicated by elevation of bodily temperature; (3) to increased elimination of waste products superinduced by the resulting perspiration.

Medical News

CALIFORNIA.

Physician Twice Fined.—Dr. Francis J. Todd, Oakland, on November 16 was fined on one count $2 and on another count $5 for exceeding the automobile speed limit.

Sent to Prison.—Dr. Herbert T. Thornburgh, San Francisco, an employé of a patent medicine manufacturer, was sentenced on November 18 to serve two and one-half years in the state penitentiary at San Quentin for forgery.

Midwife Not Guilty.—Emelie Sutler Simon, a midwife, of San Francisco, charged with causing the death of Mrs. Angela Venezia by a criminal operation, was discharged November 11, the judge stating that he found no proof of guilt.

Inmates in State Institutions.—The State Board of Charities reports the following number of inmates in the various institutions of the state: State Hospital at Stockton, 1,099; at Napa, 1,491; at Agnews, 1,063; at Mendocino, 667; and in southern California, 833.

October Vital Statistics.—Reports from 53 of the 57 counties in the state show 1,873 births, equivalent to an annual rate of 13.1 per 1,000; 2,117 deaths, equivalent to an annual rate of 14.9 per 1,000; and 1,464 marriages. Tuberculosis led the death causes, with 299, followed by heart disease with 184, pneumonia with 127, injuries (including suicide) with 127, cancer with 119, diarrhea with 112 and Bright's disease with 106 deaths.

Hospital News.—Mrs. Millicent Olmstead, San Gabriel, has executed a deed setting aside a residence and business property in Los Angeles and a ranch in Elmonte, to be sold after her death and the proceeds devoted to the establishment and maintenance of a free hospital. The property deeded is valued at more than $200,000.——The Oceano Outdoor Sanatorium for Consumptives, Santa Monica, netted $1,374.89 from the garden fête recently given by Miss Georgiana Jones at Miramar.——The new detention hospital for Los Angeles at Chavez Revine will be completed in about three months.——Pasadena Hospital is to have a handsome addition 124x75 feet, to cost about $30,000, accommodating 30 patients and given by O. S. A. Sprague as a memorial to his late wife.

COLORADO.

New Hospital.—A new hospital is to be erected at Boulder Hot Springs at a cost of $9,000.—A non-sectarian hospital, under the auspices of the Colorado Conference of Deaconesses, will be erected in Colorado Springs at an expense of $100,000.

Additions to Sanatorium.—The new St. Anthony addition to the Glockner Sanatorium, Colorado Springs, has been erected and equipped at a cost of about $40,000, and 29 tents or cottages have been located on the grounds of the institution, at a cost of about $23,000.

The Old Trick.—Forty well-to-do farmers of Weld and Morgan counties are protesting against the payment of promissory notes of $42 each, which they gave to an itinerant alleged physician a year ago on the condition that they should be cured of rheumatism. As none of the victims received benefit they naturally object to paying the notes.

CONNECTICUT.

Hospital News.—The by-laws of Norwalk Hospital have been so amended as to increase the maximum hospital staff from eight to ten.——Dr. Kenneth E. Kellogg, a member of the consulting staff of New Britain Hospital, has been placed on the attending staff and Dr. Katherine H. Travis has been appointed pathologist and bacteriologist, and Dr. Roger M. Griswold, Berlin, consulting physician.——The Danbury Hospital Association has filed articles of incorporation.——The cornerstone of St. Francis Hospital, Hartford, was laid with appropriate ceremonies October 29.

DISTRICT OF COLUMBIA.

Hospital Plans Approved.—The plans for the United States Army General Hospital, Washington, have been approved by the Secretary of War and the committee in charge, consisting of Majors Borden, McCaw and Stevens. Congress has appropriated $300,000 to complete the building.

Health Report.—The report of the health officer for the week ended December 2 shows that 101 deaths occurred and 114 births. At the close of the week the following cases of contagious diseases were under treatment: Diphtheria, 89; scarlet fever, 20; typhoid fever, 140, and smallpox, 5. The health department is investigating a number of the sources of milk supply to determine, if possible, the source of infection.

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[1] Australasian Med. Gaz., vol. xxiv, No. 7, p. 319.

Inspection of Government Buildings and Offices.—An order has been issued for the President creating a commission consisting of Surgeon-general Robert M. O'Reilly, U. S. Army; Surgeon-general Presley M. Rixey, U. S. Navy, and Surgeon-general Walter Wyman, U. S. P. H. and M.-H. Service, to prepare and submit to the President for approval a plan for instituting an inquiry through the proper officers of the government as to the sanitary conditions existing in all government offices and workshops where a large number of persons are employed, especially with a view of recommending, if necessary, measures for prevention of tuberculosis therein, and furthermore, to detail one or more persons from each of the public services named, to assist in the formation of a plan for investigation and action.

ILLINOIS.

Diphtheria.—Owing to the prevalence of diphtheria the schools at Metcalf have been closed.——Shelbyville schools are closed on account of diphtheria.——The village of Washburn, Woodford County, is under quarantine and schools have been closed on account of the prevalence of diphtheria.

Oak Park Hospital.—At a meeting of the Oak Park Business Men's Association, December 8, Dr. John W. Tope announced that he had purchased a site for a hospital and that the Sisters of Misericordia of Montreal would build a hospital on this site next year. He declined, however, to give the location of the hospital site.

Civil Service Board.—The civil service commission has selected Drs. Hugh T. Patrick, Frank Billings, John B. Murphy and Harold N. Moyer, Chicago, and Dr. Frank P. Norbury, Jacksonville, as a board to prepare the questions and grade the papers in examinations for assistant physicians in the state hospitals for the insane.

Northern Illinois Physicians Meet.—The North Central Illinois Medical Association held its thirty-second annual meeting in Streator, December 4. The following officers were elected: President, Dr. James J. Pearson, Pontiac; vice-presidents, Drs. Edgar P. Cook, Mendota, and Edward S. Murphy, Dixon; secretary and treasurer, Dr. George A. Dicus, Streator, and censors, Drs. Franklin A. Turner, Sandwich; John M. Kaiser, Somonauk; James A. Marshall, Pontiac; Roy Sexton, Streator, and Joseph I. Knoblauch, Metamora.

Personal.—Dr. David W. Magee, Peoria, fell November 24, sustaining a compound fracture of the left hip.——Dr. Lemuel Tibbets, Rockford, will move to California after the holidays.——Dr. John B. Miller, Gilson, has decided to move to New Mexico.——Dr. James C. Stewart, Anna, has been appointed local surgeon for the Illinois Central Railroad, vice Dr. Samuel Dodds, removed.——Dr. and Mrs. George F. Heidemann, Elmhurst, have gone to Alabama for the winter.——Drs. Robert J. Christie, Jr., and Otis Johnston, Quincy, have been appointed local surgeons for the Burlington System.——Dr. Frank H. Lord, Plano, has gone to New Mexico.

Itinerant Vendor Brings Suit.—James Ferdon, an itinerant vendor of medicines, who advertises himself as "Brother Paul," and who has already been noticed in The Journal, has brought suit in Cook County against the State Board of Health to recover $100 held by the board. Ferdon made application for an itinerant vendor's license and tendered the fee of $100, which was accepted by the secretary of the board. The application was referred to the board and declined. In the meantime "Brother Paul" began operations in Freeport, using the receipt of the State Board of Health as his evidence of authority. Suit was brought against him by the board and fines of $1,800 and costs found against him. Ferdon left the state and went to Iowa where, on information given by the Illinois board, action was taken against him by the Iowa Board of Medical Examiners. Ferdon now brings action to recover the fee of $100, which the State Board of Health holds as a partial offset of the fines assessed against him.

Litigation in Enforcement of Medical Practice Act.—E. M. Harrison, who holds a diploma issued in 1903 by the now defunct Dunham Medical College, has begun action against the State Board of Health in the Circuit Court of Cook County, to compel the board to issue him a certificate without examination. The action is based on section 2 of the Medical Practice act, which provides that the board may issue certificates to graduates of Illinois medical colleges in good standing without examination. The attorney-general in 1899 held that "may" in this instance must be construed as "shall." On December 12 Judge Chytraus denied the writ of mandamus and held that it is discretionary with the board whether certificates be issued under this provision.——Several years ago the State Board of Health brought suit against Dr. Peter R. Langdon, who had practiced in Kankakee for many years, but who holds no certificate from the state board. Dr. Langdon contended in his defense that the law does not apply to him, inasmuch as the law states that "no person shall hereafter begin the practice of medicine, etc.," while he contends that he did not begin practice after the passage of the law. He was sustained in this position by the Circuit Court of Kankakee County and, on appeal by the State Board of Health, the Appellate Court affirmed the decision of the lower court. This case is now pending in the Supreme Court, and the board is hopeful that the decision of the Appellate Court will be reversed.

Chicago.

Head Eligible List.—Of the 68 applicants who took the examination for the civil service examination for medical inspectors in the health department, Dr. Edward W. Quick received the highest mark; Dr. Paul F. Morf was second; Dr. Joseph T. Friedman, third, and Dr. Kellogg Speed, fourth.

A Patient's Ingratitude.—In the case of Abraham Bernstein, who sued Dr. George F. Suker for $10,000, alleging that he had been made blind through on operation performed by the defendant two years ago, the court instructed the jury that there was no case against Dr. Suker who, the evidence showed, had treated the plaintiff gratuitously for two years as a result of which the man's sight had slightly improved.

Personal.—Dr. Maurice M. Doty has been appointed traction expert, which includes the duty of enforcing the ordinances tending to ensure satisfactory street car service.——Dr. Edwin Janss reached Los Angeles after a trip around the world.——Dr. Alonzo M. Wheeler has been elected president of the Chicago Association of Kalamazoo College Alumni.——Dr. Garrett J. Hagens met with a serious accident in a runaway three weeks ago in which his right hip was injured. He is now able to be about.

Deaths of the Week.—Although there were 71 deaths more reported for the week ended December 9 than for the previous week, and 42 more than for the corresponding week of last year, the health conditions are considered fairly satisfactory. The 554 deaths reported are equivalent to an annual death rate of 14.50 per 1,000, and this is nearly 4 per cent. lower than the average December rate of the previous decade. The increases in the chief causes of death are: Bright's disease, 11; tuberculosis, 12; heart diseases, 7; pneumonia, 21, and violence, 20. The number of deaths from these causes was as follows: Pneumonia, 83; consumption, 79; Bright's disease, 51; heart diseases and violence, including suicide, each 47.

INDIANA.

Sick and Afflicted.—Dr. John C. F. Thorne, Kokomo, was committed to a private sanatorium at Kenilworth, Ill., November 29.——Dr. Christopher C. Cronkhite, Marion, has entered a sanatorium at Hartford City to take treatment for the drug habit.

Laboratory of Hygiene Opened.—The State Board of Health announces that the State Laboratory of Hygiene, Indianapolis, is now open and ready to serve the public without cost. The department has two divisions—one of bacteriology and one of chemistry. On application physicians are supplied with outfits for the culture of diphtheria and for collecting sputum and blood for examination.

Personal.—Drs. Edmund D. Clark, Thomas B. Noble and Frank A. Morrison have been selected as a board of health for Indianapolis.——Dr. Morton J. Compton, Evansville, has been appointed secretary of the Vanderburg County Board of Health, vice Dr. Willis S. Pritchett.——Dr. John M. Fouts, Centerville, has been reappointed physician for the Wayne County Infirmary, and Dr. George H. Grant, Richmond, secretary of the Wayne County Board of Health.

Allen County Society.—At the annual meeting of this society resolutions were adopted approving the Council on Pharmacy and Chemistry, which appear elsewhere in this issue of The Journal. The following officers were elected: President, Dr. Maurice I. Rosenthal; vice-president, Dr. Eric A. Crull; secretary, Dr. J. Clifford Wallace; treasurer, Dr. William P. Whery, and censor, Dr. Samuel H. Havice, all of Fort Wayne. The society now has a membership of 84.

LOUISIANA.

Children's Sanatorium.—A sanatorium exclusively for children is to be located at 850 Carondolet Street, New Orleans, to be presided over by Dr. Erastus D. Fenner, lecturer on diseases of children in the medical department of Tulane University.

Want School of Tropical Medicine.—The administrators of Tulane University have asked the faculty of the medical department of that institution for an expression of opinion regarding the establishment of a school of tropical medicine in connection therewith.

Colored Medical Association.—At a meeting of the colored [illegible] of Louisiana at Alexandria, November 15, a state [illegible] was organized, with the following officers: Dr. Green A. Cain, Shreveport, president; Dr. L. M. Coleman, Lake Charles, vice-president; Dr. Isaac W. Young, Alexandria, secretary, and Dr. James P. Jones, Alexandria, treasurer.

A Yellow Fever Martyr.—Garnett Barnette, a medical student of Bonami, who, when the outbreak of yellow fever occurred, offered his services to the State Board of Health, and who worked hard in Bonami in the effort to stay the ravages of the disease, died from yellow fever October 20, after an illness of eight days, aged 28. Young Barnette was a brilliant student and a young man of fine promise, and in his death exemplified the love than which none is greater, "that a man lay down his life for his friends."

MARYLAND.

Deaths.—The deaths in Baltimore last week were 201, as compared with 214 for the corresponding weeks the last two years.

Left Large Estate.—The late Dr. Charles Carroll Shippen, Baltimore, who died November 6, left a personal estate appraised at $140,488.

Seat May be Contested.—The seat of Dr. Richard S. Hill, Upper Marlboro, Prince Georges County, who was announced to have been elected to the House of Delegates by 65 majority, will be contested.

Inducements of Naval Medical Service.—Medical Director R. A. Marmion, United States Navy, delivered an address in Anatomical Hall, Baltimore, December 9, on "Inducements which the Naval Medical Service Offers to Capable Medical Men."

Bequests.—The late Mr. William Ferguson, Baltimore, by will, left residuary bequests of $5,000 to the Presbyterian Eye, Ear and Throat Hospital to aid aged mechanics or members of their families unable to pay, and $10,000 to the Hospital for Consumptives for the benefit of impecunious consumptive mechanics.

City Society Meeting.—The Baltimore City Medical Society, the city branch of the Medical and Chirurgical Faculty of Maryland, held its annual meeting December 6. Dr. W. S. Thayer was elected president, and Dr. W. Edward Magruder was re-elected secretary. A resolution was adopted endorsing the Anti-Smoke League movement.

MASSACHUSETTS.

Fire at Hospital.—A fire at the Springfield Hospital November 21 damaged an old building and a laundry annex to the extent of $3,000, fully covered by insurance.

Centennial of Society.—The Essex South District Medical Society held its centennial anniversary in Salem November 21. The papers read were chiefly of an historical nature, dealing with the early days of the society and its early members.

Bequests.—By the will of Samuel Ivers of New Bedford, $500 is left to St. Luke's Hospital, $250 to the Instructive District Nursing Association, $500 to the North Day Nursery, $500 to the South Day Nursery, besides similar amounts to many other charities.

Poison in Lunch.—Dr. Herbert J. Keenan, chairman of the committee on mechanic arts, High School, Boston, from which most of the cases of ptomain or formaldehyd poisoning have been reported, has made a careful study of the cases of illness which originated in that school, and declares that in almost every case the symptoms were those of formaldehyd poisoning.

New Boat for Floating Hospital.—The board of managers of the Boston Floating Hospital have decided to build a new boat. It is to be 170 feet long and 46 feet wide, with wards to contain not more than 16 sick babies each. Accommodations will thus be provided for 100 patients, besides another 150 who can be taken out on the upper deck for the day. This will practically double the capacity of the hospital, which for several years now has turned away, for lack of room, nearly or quite as many as have been admitted. The cost of the new boat will be about $60,000, and earnest efforts are being made to raise this entire amount.

Personal.—Dr. Arthur G. Minshall is in charge of the medical department of the Dickinson Hospital, Northampton, for the coming quarter; Dr. Alfred H. Hoadley of the surgical department; Dr. Clarence R. Gardner of the eye and ear department, and Dr. Justus G. Hanson of the pathologic department.——Bert R. Rickards has been appointed head bacteriologist of the Boston Board of Health.——Dr. Clarence P. Curley, Provincetown, has been appointed medical examiner for the third Barnstable district, vice Dr. Samuel T. Davis, Orleans.——Dr. Philip Kilroy has been appointed dermatologist and neurologist on the staff of the Springfield Hospital.——Dr. Frank D. Stafford, North Adams, who has been seriously ill with septicemia due to an operation wound, is improving.——Dr. George L. Perry, Athol, has been elected a member of the board of health, vice Dr. Garrett B. B. Larkeque, resigned.——Dr. C. E. Street has been made a member of the staff of the Isolation Hospital, Springfield, vice Dr. T. S. Bacon, resigned.——Dr. Percy C. Procter, Gloucester, retired from practice December 1 and was succeeded by Dr. Philip F. Moore.——Dr. and Mrs. Albert C. Cobb, Marion, arrived in New York November 27 from Vienna.——Dr. Edward O. Otis, Boston, has been appointed visiting physician at the State Sanatorium for Tuberculous Patients, Rutland, vice Dr. Vincent Y. Bowditch, Boston.——Dr. Robert W. Lovett has been elected attending surgeon and Dr. Henry R. Hitchcock attending physician of the New England Peabody Home for Crippled Children.——Dr. Timothy J. Reardon, for several years assistant laryngologist at Carney Hospital, Boston, has been appointed trustee of the Boston City Hospital, replacing Henry H. Sprague.

MICHIGAN.

Smallpox.—Four cases of smallpox are reported at Hudson's logging camp near Menominee.

Money for Hospital.—The bazaar at Kalamazoo for the benefit of Borgess Hospital netted about $6,000 for the institution.

Personal.—Dr. William J. Stapleton has been appointed physician of Wayne County to succeed Dr. S. L. Polozker, resigned.——Dr. John E. Clark has been appointed chemist and Dr. E. B. Forbes, a physician of Wayne County.

Physician Gets Damages.—Dr. Eugene Smith, Detroit, was awarded $1,500 damages in the United States Court at Trenton, N. J., November 29, for injuries received by being thrown from a berth on board the steamer *Vaderland*, belonging to the International Mercantile Marine Company.

Women's Efforts Erect Hospital.—The new $40,000 hospital building erected at the Michigan Insane Asylum, Kalamazoo, at a cost of $40,000, was formally dedicated November 5. This building is the result of three years' earnest work by the women of Kalamazoo, who formed a women's auxiliary for this purpose. The building is fireproof, four stories in height, thoroughly equipped and will accommodate 50 patients.

MINNESOTA.

Personal.—Dr. and Mrs. C. M. Kistler, Minneapolis, have gone to Europe.

An Unhealthy November.—November was an unhealthy month at Minneapolis. More than 30 deaths were caused by pneumonia and typhoid fever, and the deaths from all causes numbered 225, equivalent to an annual rate of 10.3 per 1,000.

Lift Debt of Hospital.—Messrs. D. C. and F. B. Shepherd, St. Peter, gave $35,000 at a thanksgiving offering to St. Luke's Hospital Association to pay the mortgage indebtedness of that institution. The gift is made in memory of Mrs. D. C. Shepherd, who died three years ago.

Minnesota Valley Physicians Meet.—At the twenty-sixth annual meeting of the Minnesota Valley Medical Association, held in Mankato December 5, resolutions of condolence were adopted on the death of the late secretary, Dr. Edwin D. Steel, Mankato. The following officers were elected: Dr. Michael Sullivan, Adrian, president; Drs. George R. Curran, Mankato, and Fred P. Strathern, St. Peter, vice-presidents; Dr. Adolph G. Leidloff, Mankato, secretary, and Dr. George F. Merritt, St. Peter, treasurer.

Hospital News.—The George B. Wright Memorial Hospital, Fergus Falls, was opened for patients November 15. The board of trustees of the City and County Hospital Association of Albert Lea has leased the hospital property of Dr. Hamilton H. Wilcox in that city and the building will be converted into a general hospital.——The committee on streets has ordered an unfavorable report on the application of Miss Helen G. Hill for a license to operate a hospital for crippled children in St. Paul.

MISSOURI.

Taken to State Hospital.—Dr. James T. Johnson, Shell City, has been committed to the State Hospital for the Insane No. 3, Nevada.

Hospital Sunday.—It is estimated that the receipts from the Hospital Saturday and Sunday Association, St. Louis, December 2 and 3, will reach $35,000.

Examination of School Children.—The medical examination of children in the Kansas City public schools was inaugurated November 20 by a corps of 50 medical inspectors.

Personal.—Dr. Charles A. Snodgrass, acting health commissioner since the removal of Dr. John H. Simon in July last, was formally elected health officer of St. Louis, November 17. ——Dr. A. J. Detweiler, Columbia, has resigned as bacteriologist of the State Board of Health and expects to locate in Hannibal.——Dr. and Mrs. Joseph W. Howard, Kansas City, have returned from a visit to the East.

MONTANA.

New Hospital.—It is announced that John Manning will soon erect a hospital building to cost $9,000 at Boulder Hot Springs.

Diphtheria.—There are no new diphtheria cases reported in Anaconda, and only about 20 cases have been reported since the disease made its appearance in the city a few weeks ago. Strict quarantine and disinfection have been observed.

Personal.—Dr. George H. Putney, Missoula, has received an appointment from the Panama commission and has left for his post of duty at Colon.——Dr. Gowan Ferguson, Great Falls, was operated on for abscess of the liver at Rochester, Minn., recently.

Physician Loses Suit.—In the case of William Barbour vs. Dr. James L. Jones, Dillon, for $300 damages alleged to have been suffered by reason of the loss of his wife's services for six months caused by her inability to attend to household duties, the jury returned a verdict in favor of the plaintiff for $50.

NEBRASKA.

Hospital Rebuilt.—The work of reconstruction of the old west wing at the Nebraska State Hospital, Norfolk, into a cottage for the accommodation of more patients has commenced, and the work will be completed early in the summer. The new cottage will cost about $21,000 and will accommodate 50 patients.

Personal.—Dr. Emma C. Robbins, third assistant physician at the Hastings State Asylum, has resigned.——Dr. Robley C. Harris, Sidney, has resigned as receiver of the United States Land Office.——Dr. and Mrs. J. C. Agee, Valley, have moved to Nevada.——Dr. G. W. Strough, Barneston, has been appointed division surgeon of the Union Pacific Railroad.——Dr. Philip H. Metz, Humphrey, has been appointed district surgeon and physician for the Union Pacific Railroad.

Diphtheria.—The South Ward school, Aurora, was closed recently and fumigated on account of diphtheria.——Dr. H. Winnett Orr, Lincoln, who has studied the progress of diphtheria in that city and the use of quarantine methods and antitoxin, asserts that the use of antitoxin has reduced the death rate from 40 per cent. to 2 per cent. or less. He estimates the total number of cases during the fall months at 150 and states that 33 cases were quarantined during October.——In Benson 12 cases have been reported and the public schools have been closed.——The board of health and school board of Beatrice have decided to close the South school for fumigation on account of diphtheria.

NEW HAMPSHIRE.

Epidemic of Scabies.—An epidemic of what is called the old-fashioned "army itch" is prevalent in Nashua. It is estimated that there are 500 cases in the city.

Hospital Notes.—The Elliot Hospital, Manchester, is to receive $5,000 by the will of Mrs. Angeline B. Cilley to support a free bed.——It is suggested that the new hospital now in process of construction in Exeter, to cost $25,000, be named after Edward Tuck of Paris, who gave $11,000 toward the building fund.

Oppose Contract Medicine.—The Nashua Medical Association on November 27 voted unanimously to stand by the resolution passed some time ago against contract medicine. By the terms of this resolution the members of the association agree not to enter into contracts with lodges, societies, organizations or corporations.

Personal.—Dr. George Cook, Concord, president of the Alpha-Kappa-Kappa fraternity, was given a banquet at Nashville, Tenn., October 26.——Dr. Frank W. Grafton has been elected president of the Concord District Nursing Association.——Dr. Napoleon Matte, Keene, fell while leaving the house of a patient and fractured a bone in the left foot.

NEW JERSEY.

Charitable Bequest.—By the adjudication of the estate of the late Maria T. Wirgman the Cooper Hospital, Camden, receives $24,689.50.

New Hospital.—Mayor Fagan, Jersey City, who broke ground for the new City Hospital September 8, laid the cornerstone of the institution November 1.

Diphtheria.—Diphtheria has again broken out in Millville and it is feared that the schools will have to be closed.——One school in Cranford has been closed on account of diphtheria.

Personal.—Dr. Sylvan G. Bushey, Camden, sustained severe contusions in a fall from a trolley car November 18.——Dr. Joseph B. Shaw, Trenton, has returned after six months' stay in Germany.——Dr. Wiliam H. Kensinger, Camden, has been elected a member of the city council.

NEW MEXICO.

Personal.—Dr. William J. Hammer, who has been for the past five years first assistant physician at the Loomis Sanitarium, Liberty, N. Y., has been appointed resident medical director at St. Joseph's Sanatorium, Silver City. He will assume the duties of his new position at once.——Dr. Carl Hagen, Silver City, has returned after an absence of four months in Europe.

Albuquerque Protests Against Influx of Incurables.—At a meeting of the associated charities of Albuquerque, November 2, the following resolution was adopted:

> *Resolved,* That the physicians and authorities in other sections be strongly censured for sending health seekers to Albuquerque and New Mexico when they have reached the stage where they are beyond help from climatical advantages or are without sufficient funds to support themselves for a period of at least six months, and that the press be urgently requested to give this resolution the greatest publicity.

NEW YORK.

Hospital Incorporated.—The certificate of incorporation of the City Hospital for Women, Buffalo, has been issued. The concern is capitalized at $1,000.

Bequests.—By the will of the late Dr. DeVille W. Harrington, Buffalo, $3,000 is added to the $2,000 heretofore given for the endowment of the Dr. Harrington lectureship. About $125,000 was also left to the Buffalo General Hospital to endow the Dr. Harrington Hospital for Children.

Gift to Infirmary.—The Ballston Infirmary, situated at Spa, has been presented with $5,000 in 4 per cent. railroad bonds by Harriet N. Carpenter. The interest from these bonds is to be used for the support of this institution, which was presented to the county about three years ago by Horace W. Carpenter of New York City.

State Charity Work.—The third annual meeting of the State Charities Aid Association was held in the United Charities Building, New York City, December 6. George F. Canfield, president of the association, in his report as chairman of the committee on the insane, said that there was a decrease in the number of new cases this year, as compared with last year, and that the increase in the number of committed insane during the year was less than in any year since 1890, the total number being 547, as compared with 927 last year, and an average of 758 a year for the past ten years. The total number of committed insane in state hospitals and private asylums on October 1 was 27,408, of whom all except 985 were in state hospitals. The legislature of last year made provision for increased accommodations at the Institution for the Feeble-minded and Epileptic. The Craig Colony for Epileptics was allowed a new building for 200 inmates; the Newark State Custodial Asylum for Women, two cottages, each for 60 inmates, and the Rome State Custodial Asylum, a dormitory building for 100 inmates, and sufficient money to purchase 150 acres of farm land. Dr. Charles Hitchcock was re-elected as one of the members of the board of managers.

New York City.

Tuberculosis Exhibition Moves.—This exhibition, which has been open for two weeks at the American Museum of Natural History, will be moved to Boston, to Philadelphia, and to other larger cities.

Low Death Rate.—The death rate figures for the week ending December 2 were 17.82 per 1,000. This is unusually low for this season of the year. The only increase in mortality was from measles.

Personal.—Dr. George Montgomery Tuttle sailed for Genoa on the *Cretic* December 7.——Dr. Armand L. F. Dufloo was assaulted and robbed while returning from a night call. He lost $70 in money, a gold watch and some valuable papers.

Long Island Open-air Sanitarium.—The trustees of this institution have appealed for funds. The institution will be for the use of Brooklyn and Long Island. In Brooklyn alone it is estimated that there are more than 10,000 consumptives, most of whom are unable to provide proper treatment. The estimated cost of land, building and equipment is $50,000. It is hoped that it will be self-supporting.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 2, 421 cases of tuberculosis, with 174 deaths; 438 cases of measles, with 11 deaths; 285 cases of diphtheria, with 34 deaths; 157 cases of scarlet fever, with 6 deaths; 71 cases of typhoid, with 10 deaths; 15 cases of cerebrospinal meningitis, with 15 deaths; 154 cases of varicella and 1 case of smallpox.

Hospital Anniversary.—The thirty-seventh anniversary of the Presbyterian Hospital has just been celebrated. The annual report shows that during the fiscal year ended September 30 last, 47,933 patients were treated in all departments, an average of 606 per day. This was 13 per cent. more than were cared for during the previous year. Only a very small proportion were able to pay the actual cost of their care. The receipts from donations were $60,439, compared with $42,059 for the previous year. The receipts from legacies were $187,249. The actual cost to the hospital for free treatment during the year was $168,814, and the cost per day per patient was $2.81.

Work of the City Hospitals.—The report of the trustees of Bellevue Hospital and Allied Institutions for the first quarter of this year has been made public. The four hospitals under the management of the trustees admitted 9,173 patients, of whom 6,179 were men and 2,994 were women. Of these patients 4,022 were natives of the United States, 1,854 were born in Ireland, 699 were of Russian birth, and 686 were Germans. Bellevue received 7,210 of these patients; Gouverneur admitted 1,073, of whom more than one-third were Russians; Harlem Hospital admittea 621, and Fordham 269. In the out-patient department of Bellevue 5,581 new cases were treated, there being a total of 18,875 visits and 22,155 prescriptions. Gouverneur had 6,306 new patients, 15,450 visits and 11,930 prescriptions. Harlem's record was 6,591 new patients, 15,450 visits and 15,858 prescriptions, while the figures for Fordham were 659 new patients, 1,395 visits and 1,494 prescriptions. In the psychopathic wards of Bellevue 642 patients were received, of whom 340 were men and 302 women. The record for acute alcoholism shows 7 women and 6 men.

Reform in Hospitals.—A movement to put the hospitals of this city on a business basis, to bring about co-operation, to curtail expenses, and thus greatly to enlarge their powers of usefulness, was inaugurated in March of this year by the Society for the Improvement of the Condition of the Poor. An association of hospital superintendents has been formed, the first of its kind in the city, and at the next meeting it will discuss a list of rules that has been drawn up for the purpose of preventing the waste of hospital supplies. It is claimed that if all the hospitals would *co-operate in the matter of business* management, $1,000,000 could be saved annually. Among the questions to be discussed are: What plan is best fitted to increase the financial support, individually or jointly? What opportunities are there for decreasing hospital expense? Is a uniform method of accounting desirable among the several hospitals? The sub-committee on economy suggests several means of lessening expense. For example, the use of ether of a cheaper grade, but just as safe; the closed method of inhalation of ether; dressings and bandages to be washed, resterilized and used over in some cases. Much saving can be effected in the use of alcohol. Coal and other commodities could be purchased in cargo by co-operation of several hospitals. There should be one executive officer in an institution who would have authority to enforce the methods to secure a minimum of expenditure. Methods which are demonstrated to have the advantage of simplicity and economy in certain institutions should be adopted in others.

NEVADA.

Damage by Fire.—The offices of Drs. Dunham and Wedelstaedt, Goldfield, were damaged to the extent of $2,500 by fire, November 7.

Census Shows No Hospital.—Nevada is not credited with possessing a single hospital in the special census bureau report on benevolent institutions of the United States for 1904.

Must Have License.—The Supreme Court of the state has upheld the act requiring physicians to take out licenses before they can practice. The case came up on appeal from Nye County, where Dr. Wyerhoist was fined for violation of law and appealed.

Paupers Declared Insane.—Dr. Samuel C. Gibson, superintendent of the Nevada Hospital for Mental Diseases, Reno, makes the charge that many counties of the state, in order to rid themselves of the care of the pauper sick, are declaring these unfortunates to be insane and committing them to the state asylum.

State Board of Health.—The new State Board of Health assembled for organization at Carson City, October 27. The new appointees, Drs. Simeon L. Lee and Berry of Carson City, and Dr. Samuel C. Gibson, Reno, were sworn in. Dr. Berry was elected president; Dr. Gibson, vice-president, and Dr. Lee, secretary. Dr. Gibson was also appointed health officer of Washoe County.

OHIO.

Hospital Staff Reappointed.—The entire staff of the City and Branch hospitals, Cincinnati, was reappointed December 4.

Physicians Ill.—Dr. I. A. Myers, Shelby, is seriously ill with heart disease.——Dr. L. M. Brumbaugh, Dayton, who has been ill with typhoid fever in Salt Lake City, is reported to be improving.——Dr. James B. King, Wyoming, is seriously ill with erysipelas at his home.

New State Hospital Site.—It is stated on reliable authority that the new State Hospital for Tuberculosis will be located about two miles east of Zanesville, on a tract of about 450 acres. The main building will be situated on a hill 1,500 feet above sea level. The land itself will cost about $30,000.

Hospital Opened.—The Memorial Hospital, presented to the city of Piqua by Mrs. Julia Ball Thayer of Keene, N. H., in memory of her brother, the late D. L. C. Ball, is completed, and a short dedicatory service was held November 30. On December 7 the hospital was opened with appropriate ceremonies.

Hirst in Cincinnati.—Dr. Barton Cook Hirst, Philadelphia, addressed the Cincinnati Academy of Medicine December 11 on "The Diagnosis and Treatment of Puerperal Infection." During his stay in Cincinnati Dr. Hirst was the guest of Dr. Magnus A. Tate, and on the afternoon of December 11 Dr. Tate gave a reception.

Epileptics Incurable.—In the annual report of the superintendent of the State Hospital for Epileptics in Gallipolis, he says: "Our experiments more and more confirm the opinion that true epilepsy is essentially incurable." During the history of the institution only six persons have been discharged as recovered. The trustees ask $196,000 for current expenses for the next two years and $129,750 for new buildings, land and other objects.

Liquor License for Patent Medicines.—The internal revenue commissioner has stated that the special stamp tax stamp of retail liquor dealers taken out by any person for the sale of alcoholic compounds labeled as medicines must be issued to him for a fixed place of business and that he can not travel from place to place, selling such compounds in the manner of a peddler and be protected by any special tax stamp. He further says that the revenue laws do not contemplate the peddling of alcoholic liquors, and every person found doing business in that manner becomes involved in a special tax liability at every distinct and separate place at which there is evidence of his having made such sales.

Personal.—Dr. Frank B. Cross, Cincinnati, has arrived in London.——Dr. Edgar Dimond, Cincinnati, sailed for Europe December 9 for a year's study in Vienna.——Dr. Albert F. McVety has been appointed head of the medical department of the Y. M. C. A. of Toledo.——Dr. H. C. Rutter, formerly superintendent of the State Hospital for Epileptics, Gallipolis, has accepted the medical directorship of the department of nervous and mental diseases of the Ohio Sanatorium Company, operating the sanatorium in Columbus and also one in Marion. Dr. Mark A. Brown, editor of the *Lancet-Clinic*, Cincinnati, has had a severe sprain of the ankle.——Dr. Oliver P. Holt is convalescing from appendicitis.——Dr. George Holt has just finished his term of service as resident physician to Christ's Hospital, *Cincinnati*.

State Association of Medical Teachers.—A meeting has been called to organize a state association of medical teachers at the Great Southern Hotel, Columbus, December 26, at 2 o'clock. The program, which is already prepared, takes up the following subjects: "The Advantages and Purposes of an Organization of the Medical College Teachers of the State," "The Medical College Curriculum—the First Two Years," "The Medical College Curriculum—the Last Two Years," "The Relation of the *Literary and* Medical College," "Should Advanced Standing as Regards Medical Residence be Given to Graduates of Literary Colleges, or Should Four Years of Medical Residence be Invariably Required?" "What Subjects and How Much Work in Each Should be Required of a Graduate of a Literary College to Gain a Year's Advanced Standing in the Medical Colleges of This State?" "The Cultural Value of the Fundamental Medical Studies," "What Medical Subjects Can be and What Can Not be Properly and Efficiently Taught in the Literary College," "What Science Work Will be Held by the Board as Satisfying the Requirements of This Resolution? Will the Board Issue Certificates to Students Whose Literary Course Fulfills This Requirement?" and "The Administrative Side of the Question from the Standpoint of the Literary College."

Second District Society Meets.—The second annual meeting of the Second District Medical Society was held in Dayton, November 21. After the transaction of routine business, resolutions were passed urging the incoming governor to appoint medical men on the various boards, who should be as nonpartisan as possible, that the medical profession rather than the politicians might be consulted in matters of state, and that the appointments might be based on personal integrity, professional learning and scientific attainment rather than on political influence. The society also adopted the following resolutions:

Resolved, That the Second Councilor District of the Ohio State Medical Association do hereby heartily endorse the series of articles now being published in *Collier's Weekly* under the title, "The Great American Fraud," exposing the machinations and conspiracies of the patent medicine curse.

Resolved, That we urge on the representatives of the various county societies of this district the advisability of presenting the matter before their respective societies and of devising some active and systematic method of calling the attention of the people, especially that great mass of people who are not reached by a paper like *Collier's*, to this remarkable series of articles and that especial efforts be made to secure the co-operation of the clergy, school teachers, college professors and every person who in any way has to do with public instruction in this campaign against these human vultures, the patent medicine vendors.

The election of officers resulted as follows: President, Dr. John M. Buckingham, Springfield; secretary, Dr. Daniel B. Conklin, Dayton, and treasurer, Dr. Charles L. Minor, Springfield. It was decided to hold the next meeting at Springfield.

PENNSYLVANIA.

Communicable Disease in the State.—During the month of November there were reported to the State Department of Health 4,508 cases of communicable diseases. Many cases were reported from the rural districts on cards provided for this purpose by the department of health.

Bucks County Society Election.—At the meeting of the Bucks County Medical Society, November 1, the following officers were elected for the ensuing year: President, Dr. Richard C. Foulke, New Hope; vice-presidents, Drs. Howard Pursell, Bristol, and Julius T. Vissell, Perkasie; secretary-treasurer and reporter, Dr. Anthony F. Myers, Blooming Glen; censors, Drs. George M. Grim, Ottsville; Alfred E. Fretz, Sellersville, and William R. Cooper, Point Pleasant.

Convicted of Abortion.—Mrs. Minnie Yochim-Salow, Erie, convicted of abortion and manslaughter on November 25, was sentenced to pay a fine of $50 and the costs of prosecution and to undergo imprisonment by separate or solitary confinement at labor in the Western Penitentiary for a period of three years. In the manslaughter case she was sentenced to pay a fine of $100, the costs of prosecution and to undergo imprisonment in the Western Penitentiary by separate or solitary confinement at labor for a period of six years. Judge Walling concluded the penalty by remarking that "abortion can not be tolerated in any form by this court; it is next to murder, and often results in murder."

Vaccination.—Since the State Department of Health was established in May last by the appointment of Commissioner Dixon, 400,000 vaccination certificates have been sent out, and blanks are still being issued through the mails at the average rate of 1,500 per day.——According to the information prepared by Attorney-General H. L. Carson for Nathan C. Schaeffer, state superintendent of public instruction, fines can not be imposed on parents or guardians for the non-attendance of pupils who have been excluded from the public schools on the ground that they did not present a certificate of successful vaccination. Concerning the attorney-general's opinion, Dr. Brooks, superintendent of the Philadelphia public schools, said that he did not expect much trouble with the schools there, because of the refusal of parents to have their children vaccinated. Most of the parents, he said, believe in the efficacy of vaccination. In his experience he does not recall half a dozen instances in which the parents refused or even strongly objected to the vaccination of their children.

Beaver County Society Meeting.—The Beaver County Medical Society held its semi-centennial meeting December 7 at the Beaver Valley Country Club. Dr. Paul G. McConnel, New Sheffield, presided, and Dr. Jefferson H. Wilson, Beaver, acted as toastmaster at the banquet. Dr. George Y. Boal, Baden, gave a brief history of the society and detailed the early struggles and trials of the old-time practitioner. The guest of the evening, Dr. James Tyson, Philadelphia, read an interesting paper on the "Ideal General Practitioner." The one essential which he emphasized was that thorough medical education should be founded on a broad and liberal preliminary education. After graduating, the ideal physician should be punctual, careful and painstaking; each case should be made a careful study, thus making his experience more useful to him from time to time. The physician should not neglect the study of general literature, though it should, of course, be subordinate to his medical studies and duties. Dr. Tyson also emphasized the importance of all recent graduates connecting themselves with the local medical societies. Dr. Thomas D. Davis, Pittsburg, made reminiscent remarks of the last half-century and Dr. J. Chris. Lange, Pittsburg, dean of the Western Pennsylvania Medical College, dwelt on the importance of practitioners joining their local medical societies whether they belong to other societies or not.

Philadelphia.

Hospital Acquires Property.—The trustees of the Samaritan Hospital have purchased property on Ontario Street, 69x100 feet, adjoining the hospital, for $3,500.

Donations.—The donations received in cash by the German Hospital on its annual donation day, November 30, amounted to $8,030.75.——The Jefferson Maternity Hospital at its annual donation day, November 30, received $300 in cash.

Free Beds for Consumptives.—At the regular monthly meeting of the board of managers of the Free Hospital for Consumptives, held in Philadelphia November 24, it was decided to increase the free beds at the White Haven Sanitarium to 100.

Hospital Reports.—In the Charity Hospital 280 medical and 191 surgical cases were treated during November.——There were 63 patients under treatment in the Kensington Hospital; 60 operations were performed, and 42 new and 148 old patients were treated in the dispensary.

Maternity Home Dedicated.—The new maternity building of the Presbyterian Hospital was dedicated with appropriate ceremonies November 28. The building is a four-story brick structure and was built with $42,670 received from an anonymous friend of the hospital in 1902.

Blockley Banquet.—The organization of ex-resident physicians of the Philadelphia Hospital held its annual banquet December 7, Dr. Alfred Stengel acting as toastmaster. The following officers were elected for the ensuing year: President, Dr. Edward L. Duer; vice-presidents, Drs. Horatio C. Wood and Roland G. Curtin; secretary, Dr. Edward R. Stone, and chairman of executive committee, Dr. Edward E. Montgomery, all of Philadelphia.

Money for Hospitals.—It is stated that $1,500 was realized from a concert given in the Hotel Walton for the benefit of the Oncologic Hospital, November 21.——By the will of the late Mary Lockery the Philadelphia Home for Incurables receives $5,000.——The executive committee of the annual charity ball, at a meeting November 17, selected the following four institutions as this year's beneficiaries: The University Hospital, Jefferson Hospital, Howard Hospital, and St. Timothy's Hospital.

Dr. Coplin's Advisory Board.—On December 7 Mayor Weaver announced the appointment of the following advisory board of physicians to assist Dr. Coplin in the execution of his plans: Drs. S. Weir Mitchell, John H. Musser, John M. Anders, Hobart A. Hare, J. William White and Henry Leffmann. In addition the mayor, after consultation with Dr. Coplin, appointed the following men a committee to investigate the insane department of the Philadelphia Hospital: Drs. Charles D. Mills, Francis X. Dercum, and William Pickett.

Personal.—Dr. J. William White was summoned to Washington to discuss with President Roosevelt certain phases of football.——Dr. John Marshall was a guest at the second annual banquet of the alumni of the University of Pennsylvania of Northumberland district, held in Sunbury, November 15.——Dr. Samuel S. Stryker was presented with a loving cup at the thirty-fourth anniversary of the West Philadelphia Medical Book Club, December 4.——Dr. Richard C. Norris, president of the Philadelphia County Obstetrical Society, entertained at dinner on December 7, as guest of honor, Dr. Robert L. Dickinson of Brooklyn.

Medical Boat for the Soudan.—Through the efforts of Rev. William M. Anderson a boat has been secured for Dr. Hugh Magill for his medical missionary work in the Egyptian Soudan. The boat is 60 feet long and 15 feet wide and is provided with quarters for the crew at one end and an operating room and physician's quarters at the opposite end. The headquarters of the boat will be at "Doliob Hill" station on the Sobat River, a tributary of the White Nile. The boat will leave this station every two months for its first Abysinnian station, 289 miles up the Sobat. Dr. Magill will establish clinics at the different villages and the more serious cases will be brought back to Doliob Hill.

Health Report.—The total number of deaths for the week ended December 9 reached 479, as compared with 463 reported last week, and 453 reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 13; measles, 4; diphtheria, 14; tuberculosis, 52; cancer, 29; apoplexy, 22; heart disease, 43; acute respiratory disease, 91; gastritis, 6; enteritis, 25; Bright's disease, 37; suicide, 3; accident, 14, and marasmus, 8. There were 291 new cases of contagious disease reported, with 29 deaths, as compared with 194 cases and 31 deaths for the preceding week. Typhoid fever is on the increase. There were 152 new cases, with 13 deaths, as compared with 109 cases and 12 deaths for the previous seven days. The sections of the city supplied with filtered water are practically free from the disease, while the major portion of the cases are reported from localities supplied with "raw" water.

Conditions at Blockley.—Since the appointment of Dr. W. M. Late Coplin as director of the Department of Health and Charities a general investigation of the condition of the Philadelphia Hospital has been inaugurated. An advisory board appointed by the mayor found the hospital in a state of confusion. The report presented by Drs. Dercum, Mills and Pickett shows that the insane department contains over 1,800 patients and the space allotted to this number, if conducted under modern methods, should not accommodate more than 700 or 800. The report further states that the buildings are wholly unhygienic and unsafe. The supplies received are entirely inadequate for the demands made. The supplies are about the same now for 1,800 patients as when the number was only 1,400. The committee further found that the patients were not provided with sufficient clothing. Another very undesirable condition was the intermingling of patients suffering from various diseased conditions, particularly the tuberculous patients. The number of paid medical attendants was also said to be entirely insufficient. It may be stated, the report says, that the number of both physicians and attendants is about one-half or less than one-half the number employed in other institutions of this country where large numbers of the insane are collected. Dr. Coplin in his investigation has learned that the cost (34 cents) of keeping a patient at Blockley a day is less than at any other institution in this country.

TENNESSEE.

Smallpox.—Many cases of smallpox have appeared in Claiborne County.

Personal.—Dr. W. Frank Glenn has been made a member of the Board of Health at Nashville.——Dr. William A. Applegate, Chattanooga, chief surgeon of the Southern Railway, has moved to Washington, D. C.——Dr. Elizabeth C. Kane, Memphis, has returned from the East.

Progress of New College.—A stockholders' meeting of the College of Physicians and Surgeons, Memphis, was held November 26, at which organization was partially effected. Dr. Heber Jones was elected president, and Dr. Edward C. Ellett, vice-president. The trustees of the institution are: Drs. Heber Jones, Edward C. Ellett, John M. Maury, Maximillian Goltman, George G. Buford, Richmond McKinney, and William Krauss.

Wins Damage Suit.—The Supreme Court has decided in favor of the appellant in the damage suit brought by J. M. Burd against Drs. C. G. Gates and J. P. Milbanks, Chattanooga, for alleged malpractice. In the lower court a verdict was returned for the plaintiff in the sum of $500, but this verdict was reversed by the Supreme Court on the ground that "from the evidence of plaintiff himself and plaintiff's witnesses, this court is of the opinion that there is no evidence to sustain the verdict of this case, and the same is therefore reversed."

Annual Meeting of Society.—At the annual meeting of the Rutherford County Medical Society, held in Murfreesboro, December 6, the following officers were elected: Dr. James B. Murfree, Sr., Murfreesboro, president; Dr. James J. Rucker, Overall, vice-president; Dr. Rufus Pitts, Murfreesboro, secretary and treasurer; Dr. Enoch H. Jones, Murfreesboro, censor (re-elected); Dr. V. K. Earthman. Murfreesboro, delegate to the Tennessee State Medical Association, and Dr. Harry C. Rees, Murfreesboro. alternate. Drs. James B. Murfree, Sr., James J. Rucker and Rufus Pitts were appointed a committee to formulate a program for the ensuing year.

TEXAS.

Epidemic of Rabies.—It is said that ten persons in Nacogdoches have been bitten by rabid dogs in the last few days.

Clinic Opened.—The San Antonio Medical and Surgical Clinic has been incorporated without capital stock, with the purpose of "free treatment of the indigent poor and promulgation of medical knowledge to doctors." A building has been secured on Third Avenue and the dispensary was opened for the reception of patients on November 27.

Non-paying Patients.—Many of the county medical associations of the state are now adopting the following resolution:

> "We further agree to refuse to give service to any delinquent, who will not pay or make an effort to pay his former physician, without the cash or such security as will insure payment, or the cash at *each and every visit* for a reasonable length of time; then the physician that is favored must insist that the former physician must be settled with in some manner satisfactory; if the patron refuses to do so, his physician must set him aside by refusing him further service. We do not mean by delinquent to include the poor and needy and invalids who come under the head of charity."

The attorney-general was asked to determine whether or not this agreement was a violation of the trust statute of the state and held that it is not a violation.

UTAH.

In Peril of Fire.—The burning of the public school building at Sunnyside, November 11, placed the adjacent Utah Fuel Company's Hospital in grave jeopardy, but the building was saved by prompt action of the company's fire department.

Personal.—Dr. George W. Middleton, Parowan, has been appointed deputy quarantine physician for Iron County, vice Dr. Donald A. McGregor, on leave of absence.——Dr. Samuel H. Pinkerton, Salt Lake City, is confined to his room from injuries received in a runaway accident.

Epidemic Diseases.—The district schools in Iron County, which were closed about five weeks ago on account of an epidemic of scarlatina, have not been reopened on account of the persistence of the disease. The local board of health has prohibited all children under 15 years of age from attending public gatherings.——It is reported that there are 20 cases of diphtheria at Fountain Green.

VERMONT.

Epidemic in Orphanage.—Seventeen girls in St. Joseph's Orphan Asylum, Burlington, were taken suddenly ill October 26, and three died. At the autopsy it was decided that the death was due to poison, the nature of which has not yet been determined.

Medical Monthly Sold.—The *Vermont Medical Monthly* has been transferred by Dr. H. Edwin Lewis to Drs. Henry C. Tinkham, dean of the medical department of the University of Vermont; Bingham H. Stone, director of the State Laboratory of Hygiene; Charles F. Dalton and H. L. White, secretary of the medical faculty of the University.

Personal.—Dr. Herbert B. Hanson, Barre, arrived at Alexandria, Egypt, November 21 on his way to his station on the Upper Nile.——Dr. Patrick J. McKenzie, Burlington, has been appointed a member of the staff of the Danvers (Mass.) Hospital.——Dr. W. R. Blossom, Rutland, was fined $100 and costs at Rutland, October 9, for killing a deer out of season.

Medical College Opens.—The opening lecture of the medical department of the University of Vermont, Burlington, was given by Dr. Don D. Grout, Waterbury, December 2. Dr. J. H. Lockart, Montreal, has been elected professor of gynecology in place of Dr. A. Lapthorn Smith, Montreal, resigned, and Dr. Samuel E. Maynard has been chosen adjunct professor of gynecology.

VIRGINIA.

Northern Neck Medical Association.—This association met at Warsaw, with Dr. James W. Tankard, Lilian, Northumberland County, president, and Dr. R. O. Long, secretary. Fourteen other physicians, representing every section of the counties of Richmond, Lancaster, Westmoreland and Northumberland, were present.

Students Barred from Hospital.—The committee on relief of the poor has adopted a resolution that the professors and students of the medical colleges of Richmond should be barred from the hospital in the future. It was alleged by the chairman of the committee that the colleges of the city were sending professors and students to the hospital to hold clinics, using the inmates for purposes of demonstration, and that many of these patients objected to the practice.

Personal.—The board of visitors of the University of Virginia has elected Dr. William Mann Randolph, Charlottesville, clinical instructor in surgery and adjunct professor of surgery, vice Dr. William G. Christian, Charlottesville, resigned.——Dr. Ernest C. Levy, Richmond, has been elected city bacteriologist for a term of two years.——Dr. J. C. Witten, Richmond, has been appointed instructor in minor surgery at the Medical College of Virginia.——Dr. Charles L. Culpepper, Portsmouth, has been appointed local surgeon for the Norfolk, Portsmouth & Newport News Company's system.

WASHINGTON.

Postgraduate Work in Spokane.—The members of the Spokane Medical Society are preparing for a course of lectures and laying out a plan to give to the physicians of the Northern Pacific slope the benefits ordinarily derived from attendance on a postgraduate course in a medical institution.

Personal.—Dr. Yancey G. Blalock, Walla Walla, has been removed from the position of physician to the state penitentiary.——Dr. H. Wellard Howard, Spokane, is ill with typhoid fever.——Dr. William E. Fifield, Tacoma, is critically ill.——Dr. B. H. Yount, formerly of Wilbur, has been released from the State Hospital for the Insane, Medical Lake.

New Antivaccination Tactics.—After making a thorough investigation of the statutes in various states concerning the vaccination of school children the Antivaccination Society of Bellingham ascertained that the cause of questioning the validity of the law would be of no avail, and it is now endeavoring to compel the board of health and the school board to make a literal enforcement of the law.

Hospital News.—A contract has been awarded by the trustees of St. Luke's Hospital, Spokane, for the construction of a maternity wing which will accommodate 50 patients and will represent an outlay of about $50,000.——Dr. Watanabe will open a hospital in Seattle for the exclusive use of Japanese patients.——St. Joseph's Hospital, Aberdeen, is so overcrowded that it has been necessary to convert the dining-room into a ward.——It is proposed to erect a hospital building to accommodate 30 patients in Wenatchee.——A permit has been granted for the erection of one wing to the Deaconess Hospital, Seattle, to cost $16,000 and to accommodate 45 patients.

Medical Men Must Have License.—The Supreme Court of Washington has sustained the conviction of O. V. Lawson of the notorious State Electro-Medical Institute, Seattle, charged with practicing medicine without a license. In its decision the court declares that the unamended sections of the medical act of 1890 and the three sections of that act as amended in 1901 are in full force and constitute the law. The defendant's contention was that, because the amended act had failed to set out in full the old law, if changed, it was unconstitutional. This the Supreme Court declares was once accepted by the court, but is no longer approved. By virtue of this decision the court affirms the ruling of the law of the lower court and declares that the $384 unlawfully obtained from the complainant, Calvin C. Deaton, must be refunded.

WEST VIRGINIA.

Personal.—Dr. Abraham S. Warder, Grafton, is seriously ill with rheumatism.——Dr. Horace M. Brown has been appointed a member of the local board of health of Union.

Smallpox.—The smallpox situation in Wellsburg is now believed to be under control. At present there are 14 cases in the city and under strict quarantine. The disease has appeared in a very mild form and the board of health has done good work in controlling the conditions.

Diphtheria.—More than 20 cases of diphtheria have been reported from Bergholz, Jefferson County. The delay in acknowledging the presence of the disease was due to a difference in opinion between two physicians as to whether or not the condition was diphtheria.——At Byron, where 16 cases were alleged, 5 cases only exist.

WISCONSIN.

Diphtheria.—Diphtheria is reported to be epidemic in the Tenth Ward of La Crosse.——In Kenosha 60 cases of the disease have been reported.——The schools at Iron River have been closed on account of the prevalence of diphtheria.

District Meeting.—The annual meeting of the North Wisconsin District Medical Society was held in Eau Claire, November 22. Dr. Edward H. Grannis, Menominee, was elected president; Dr. Frank W. Epley, New Richmond, vice-president, and Dr. Hiram A. Fulton, Eau Claire, secretary. It was decided to hold the next meeting in Eau Claire, Nov. 3, 1906.

Hospital News.—The late Mrs. Mary C. Stuart, Madison, devised $3,000 in her will for the benefit of the Madison Hospital building fund.——By the will of Julia Gertner, Milwaukee, $500 is bequeathed to the Milwaukee Hospital.——Dr. Edward A. Miller, Clintonville, will open a private hospital in that city.——The new Milwaukee Deaconess Mother House, Milwaukee, was dedicated November 23.

Smallpox.—The public schools and churches in Seymour have been closed and all public meetings have been postponed on account of smallpox, of which 15 cases have been reported.——A hospital ward has been established at the State School for the Blind, Janesville, where 15 cases of smallpox have been reported. The school is still quarantined. Janesville is said to have at least 100 cases of smallpox; 70 houses have been quarantined.

Personal.—Dr. and Mrs. Herman F. Oshwaldt, Oconto Falls, while driving near that village, were injured in a runaway accident. Mrs. Oshwaldt sustained severe injuries about the head and spine and broke three ribs, and Dr. Oshwaldt received some bruises about the head, but was not seriously injured.——Dr. William F. Beutler, Wauwatosa, has been reappointed superintendent of the Asylum for the Chronic Insane, Wauwatosa.——Dr. Hayes, Stanley, has been re-elected physician of Chippewa County.——Dr. and Mrs. M. E. Corbett, Oshkosh, have returned from an eight months' trip abroad.——Dr. William W. Reed, Jefferson, has been elected physician of Jefferson County for the fifteenth time.——Lieutenant Otto B. Bock, assistant surgeon W. N. G., Sheboygan, has resigned.——Dr. William O. St. Sure, Sheboygan, has been re-elected physician of Sheboygan County.——Dr. Gustav A. Kletzsch, Milwaukee, has resigned as president of the Milwaukee County Hospital staff.——The following physicians have been appointed for Milwaukee County: Drs. Albert F. Young, William Lochemes, Louis F. Klemm, J. H. Rohr, Charles A. Faber, A. E. Schmitz and A. C. Sidler.——Dr. John W. Coon has been appointed superintendent of the Milwaukee County Hospital, vice Dr. Ernest C. Grosskopf.

WYOMING.

License Revoked.—The State Board of Medical Examiners has revoked the medical certificate granted Dr. W. R. Wilson, who left Caspar in August last. The cause of the revocation was that Dr. Wilson obtained the certificate through false representations and also on account of unprofessional conduct.

Fire at Hospital.—A barrel of alcohol which was stored in the basement of the Sheridan Branch of the Wyoming General Hospital exploded October 20, fatally burning an employe and setting fire to the hospital. The 19 patients in the institution were removed in safety. The damage to the hospital amounted to about $800.

Personal.—Drs. Harry S. Finney, Rawlins, is ill in Omaha with typhoid fever.——Drs. Henry Stevens and Herman E. McCallam, Laramie, have been appointed local physicians for the Union Pacific System.——Dr. Charles E. Downey, Evanston, has been appointed physician for the Utah Construction Company, and will have charge of all camps operated along the line of the Western Pacific Railroad in Utah and Nevada.

Removed from Office.—At a meeting of the Sheridan County Medical Society, held in Sheridan November 6, Dr. C. R. Halley, president of the society, was, by a unanimous vote of the members present, removed from office for conduct unbecoming an officer of the society. The specific complaint preferred against Dr. Halley was violation of a written agreement signed by several members of the society not to assist nor to consult with the medical director of the Sheridan General Hospital.

State Society Meeting.—The annual meeting of the Wyoming State Medical Society, postponed from September 27-29, was held in Cheyenne, December 7. The following officers were elected: President, Dr. William A. Wyman, Cheyenne; vice-presidents, Drs. Fred Horton, Newcastle, and Ernest A. Croskery, Wheatland; secretary, Dr. George L. Strader, Cheyenne; treasurer, Dr. A. Francis Hoff, Casper; delegate to the American Medical Association, Dr. Henry L. Stevens, Laramie, and alternate, Dr. Alfred C. Godfrey, Lander. The next annual meeting of the society will be held at Casper. The date of the meeting has not yet been set. The entire session was well attended and a large number of Wyoming physicians were elected to membership.

GENERAL.

Yellow Fever in Cuba.—According to *Public Health Reports*, no new cases of yellow fever have been reported since November 26.

Superior and Duluth Society Election.—The Interurban Academy of Medicine, composed of physicians of Superior, Wis., and Duluth, Minn., held its annual meeting November

15. Dr. Luther A. Potter, Superior, was elected president, Dr. Charles F. McComb, Duluth, vice-president, Dr. Lewis Moody, Superior, secretary and treasurer, and Dr. Louis T. Pare, Duluth, censor.

Big Four Surgeons Meet.—The Association of Big Four Railroad Surgeons held its eleventh annual meeting in Cincinnati November 2. The following officers were elected: Dr. E. Memmen, Bloomington, Ill., president; Dr. F. D. Bain, Kenton, Ohio, vice-president; and Dr. T. C. Kennedy, Shelbyville, Ill., secretary and treasurer. Indianapolis was chosen as the next place of meeting.

Literature on Study of Alcohol Problem.—Dr. T. D. Crothers, Hartford, Conn., desires the names and addresses of medical men who would be pleased to receive from time to time literature on the scientific study of spirit and drug neuroses and the alcoholic problems generally. The objects are to enable authors to reach appreciative readers and to promote co-operative interest in the study.

Epilepsy Prize.—The National Association for the Study of Epilepsy offers a prize of $300 for the best essay on the "Etiology of Epilepsy." Physicians in any country may compete. The award will be made in November, 1906, but all essays submitted must be sent in by Sept. 1, 1906. Details as to conditions governing the award may be obtained from Dr. W. P. Spratling, superintendent of the Craig Colony for Epileptics, Sonyea, N. Y.

Seaboard Medical Association.—The annual meeting of this society just closed resulted in the election of the following officers: Dr. John C. Rodman, Washington, N. C., president; Drs. Benjamin R. Gary, Newport News, Va., first, E. C. Hathaway, Bloxom, N. C., and J. W. Bowden, Accomac, Va., vice-presidents; Dr. W. D. Hassell, Griscom, N. C., treasurer; Dr. Israel Brown, Norfolk, Va., secretary. This society is composed of physicians of Virginia and North Carolina living along the Atlantic seaboard.

Fix Standards for Food Purity.—The committee on food standards of the Association of Official Agricultural Chemists, commissioned by Congress to collaborate with the Secretary of Agriculture in fixing standards for purity for foods, finished its sessions in Boston. It consists of Dr. William Frear of Pennsylvania, Dr. E. H. Jenkins of Connecticut, Dr. M. A. Scorell of Kentucky, Dr. A. H. Weber of Ohio and Dr. H. W. Wiley of Washington. They discussed meat extracts, peptones, fruits, vegetables, flavoring extracts, edible vegetable oils, salts, teas, coffee, fresh fruit juices, meat, root beer, malt liquors, spirituous liquors, carbonated water, preservatives and colors. Already some standards have been fixed and adopted by many states.

National Association for the Study of Epilepsy.—The following officers were elected for the ensuing year: President, Dr. Max Mailhouse, New Haven, Conn.; vice-presidents, Dr. Everett Flood, Palmer, Mass., and Dr. William F. Drewry, Petersburg, Va.; secretary and treasurer, Dr. James W. Wherry, Dansville, N. Y. Very interesting reports were given of the progress in securing the treatment of epileptics separate from the insane. Many instances in which colonies for epileptics had been put on a self-supporting basis were cited and the general outlook was said to be distinctly encouraging. Emphasis was laid on the emancipation from the idea that the only treatment for epilepsy was confinement and the use of bromids. To-day over 20 per cent. of patients are cured.

Cholera in the Philippines.—Chief Quarantine Officer Heiser reports that the total number of cases of cholera in Manila since the beginning of the outbreak is 210, with 183 deaths; the total number in the provinces is 437, with 236 deaths. In regard to the interisland quarantine, he states that in view of the urgent necessity for more frequent communication with the provinces on account of the conditions which were brought about by the recent typhoon, and the fact that the quarantine had been in operation for nearly two months with only 1 case of cholera making its appearance on a vessel undergoing quarantine detention; and, furthermore, since experience with cholera during the past three years has demonstrated that for practical purposes the incubation period of cholera is less than three days, it was decided to reduce the period of quarantine on outgoing interisland vessels from five to three days.

Yellow Fever in Panama.—A case of yellow fever was reported in Panama, November 20. The patient was a Colombian who lived in the San Tomas Hospital, the charity hospital in the city of Panama. According to the official report he was taken sick in that institution, admitted to the ward as a patient on November 11, and died on November 20. This is the third case of yellow fever reported on the Isthmus since November 1, one of which, as previously reported, occurred in Colon. Acting Assistant Surgeon Mohr states that as no steps have been taken by the Panama authorities to stamp out the infection in Bocas del Toro, a quarantine has been enforced against that place by the sanitary department. All non-immunes arriving from Bocas will be placed in detention for five days and the small sailing craft bringing such passengers will be fumigated before being allowed to come alongside the docks.

The End of the Yellow Fever Epidemic.—During the last week of November both New Orleans and Vicksburg reported three new cases.——The Louisiana Board of Health gave Governor Blanchard a report of the epidemic and then the members tendered their resignations. Dr. Charles Chassaignac is mentioned for Dr. Souchon's post as president of the new board. It is recalled that at the close of former epidemics the State Board of Health always has resigned with more or less popular satisfaction. It is reliably reported that the Orleans Parish Medical Society will officially investigate the charges brought by Dr. Joseph Holt against Health Officer Quitman Kohnke of New Orleans.——The Pensacola quarantine was finally abandoned on November 19, and on the same day the city council voted a present of $250 to Dr. F. D. Miller, the city health officer, for his work during the epidemic.——In Texas the Jefferson County Medical Society at Beaumont adopted resolutions of confidence in State Health Officer George R. Tabor. The Texas quarantine was finally raised on November 25. Texas spent $22,000 on its quarantine, of which sum $10,000 stands as a deficiency and $12,000 as the entire appropriation for the state health office for the year Sept. 1, 1905, to Aug. 31, 1906. In consequence, an additional deficiency of $15,000 is to be created to carry on the work of the office until the end of the fiscal year.——In Alabama the Jefferson County Medical Society at Birmingham officially thanks State Health Officer Sanders for his work during the epidemic period.——Dr. John Callon of New Orleans received a silver service as a testimonial from friends and neighbors for his work during the epidemic.——Dr. Heber Jones, health officer at Memphis, has received a subscription of $10,000 for his hard work during the period of the epidemic.——At Havana there seems to be a steady increase in the number of new cases of yellow fever.

American Tuberculosis Exhibition.—This exhibition, of which a report was given last week, page 1820, was a great success; over 10,000 people attended the first week and the educational work has had a great opportunity. The offer of the American Federation of Labor has been met and an arrangement for co-operation by the labor unions is probable. On Friday evening, December 8, with Dr. John H. Huddleston of the Board of Health of New York City in the chair, Dr. S. A. Knopf of New York City told how the teacher can assist in fighting tuberculosis. To a large audience of teachers he related the history of this disease and explained at length how the disease is spread by inhalation, ingestion, inoculation and drop infection. The consumptive should hold his hand before his mouth while coughing, as a consumptive who raises no sputum expels 100,000,000 bacilli in twenty-four hours. The symptoms of consumption were outlined, as it is essential that teachers should be acquainted with them. The predisposition to tuberculosis may be inherited or acquired; alcohol plays a large part in causing a predisposition. Aside from beer, more alcohol is sold in patent medicines than over the bar. There is no less than $200,000,000 worth of patent medicine sold in this country every year. The percentage of alcohol in the more popular patent medicines was shown to range from 15 to 35 or even 40 per cent. A fearful responsibility consequently rests on those who recommend these concoctions to their friends or lend their names for the purpose of advertising, yet even ministers of the Gospel and statesmen are guilty of this offense. It must be understood that while tuberculosis is curable, it is not curable by patent medicines, but by good food, fresh air, rest, and a little medicine, judiciously prescribed by a physician. It is the duty of the teacher to prevent consumption among children, and as a consequence among the next generation. Cleanliness in regard to hands, face and finger nails should be insisted on. In France a few lines giving instruction on these matters are on the outside of public school books. The teacher should always remember not to overtax the mind to the detriment of the physical development. A variety of breathing exercises should be taught, also outdoor singing and where possible swimming lessons. Child labor should be abolished. Neither the tuberculous teacher nor the tuberculous child should be permitted in the schools, but provision should be made for both. Sanatoria should be established. Carnegie recognized the need of the college professor in his old age, and some philanthropist might well establish a fund for tuberculous teachers which would pension them or enable them to rest until cured.

CANADA.

Medical Reciprocity with the United Kingdom.—The president of the general medical council, at a meeting recently held in London, England, stated that the effect of the General Laurie amendment (1905) to the British medical act would allow of the provinces of Canada applying for the privilege of medical reciprocity with the United Kingdom. It is expected in England that some, if not all, of the provinces of Canada will extend the same privileges to graduates of the United Kingdom.

Consumption Clinic at the Toronto General Hospital.—Consumptive patients who come to the outdoor department of the Toronto General Hospital will hereafter have the benefits of a special clinic. One of the trustees and another public-spirited citizen have contributed funds to carry on this work. A special nurse has been detailed to visit these patients at their homes and to teach their families how to care for and attend cases of tuberculosis. The clinic will be under the supervision of Professor McPhedran, the chief of the medical staff of the medical faculty of Toronto University.

Toronto Free Hospital for Consumptives.—It is just a little over a year ago that the Toronto Free Hospital for Consumptives, superintended by the National Sanitarium Association, which also conducts the Muskoka hospitals at Gravenhurst, commenced operations. That great interest has been taken in the institution is apparent from the fact that within the space of a year 5,000 persons have registered at the institution, brought there through the illness of friends or from a personal motive. A large addition is now rapidly nearing completion at a cost of $20,000, which will increase the accommodation to between 60 and 70 patients. When this addition is finished accommodation will be provided for a ward for children ranging from 6 to 12 years of age. A citizen of Toronto has recently placed $10,000 at the disposal of the trustees of the institution, and the treasurer, Mr. H. C. Hammond, will erect a cottage at his own expense, at a cost of $5,000.

Hospital News.—A by-law will be submitted to the ratepayers of Hamilton, Ont., in January for the purpose of raising $35,000 to complete the new wing to the general hospital of that city.——The governor-general and Lady Grey visited Montreal December 1 and took part in the opening ceremonies of the new Maternity Hospital of that city.——An additional $5,000 was subscribed to the funds of the Toronto General Hospital during the week ending December 2.——The county council of the County of York, in which the city of Toronto is situated, has been asked by the trustees of the Toronto General Hospital to make a grant to the new hospital, which they will probably do in the near future, seeing that the Toronto General Hospital receives many county patients throughout the year.——In connection with the establishment of the new Alexandra Hospital, Montreal, on a firm financial basis, the committee in charge of finance report that they selected 150 firms of Montreal to whom first to appeal for funds, and that 149 have responded favorably. This is very encouraging to the promoters of the institution, and a new and added zest to the prosecution of the work of collection will most likely result in the accomplishment of the desired end, namely, the raising of $250,000. Of this amount only $130,000 has been collected. The Alexandra Hospital has been erected by arrangement with the city council of Montreal, to accommodate Protestant patients who may be the subject of infectious and contagious diseases.——At the recent regular monthly meeting of the board of trustees of the Winnipeg General Hospital the statistical report for the month of October was presented. It showed that the number of patients treated during that month was 640. The total number of days' stay was 9,507. The number of patients treated from January 1 to November 1 was 3,635. The number of patients in the outdoor departments numbered 440.——Dr. Augusta Stowe-Gullen has been reelected president of the ladies' board of the Western Hospital, Toronto. This board collected $3,456.80 for the hospital this year up to December 1.

The British Medical Association in Toronto.—The seventy-fourth annual meeting of the British Medical Association will be held at Toronto, Canada, Aug. 21-25, 1906, under the direction of the following officers:

President, Mr. George C. Franklin, Leicester, England; president-elect, Dr. Richard A. Reeve, Toronto; treasurer, Dr. H. Radcliffe Crocker, London, England; orator on medicine, Dr. James Barr; orator on surgery, Sir Victor Horsley.

SECTIONS.

Anatomy and Physiology.—President, Prof. Bertram C. A. Windle, Cork, Ireland. Secretary, Dr. C. B. Shuttleworth, Toronto

Dermatology.—President, Dr. Norman Walker, Edinburgh, Scotland. Secretary, Dr. D. King Smith, Toronto.

Laryngology and Otology.—President, Dr. J. Dundas Grant, London, England. Secretary, Dr. David J. G. Wishart, Toronto.

Medicine—President, Sir Thomas Barlow, London, England. Secretary, Dr. Robert D. Rudolf, Toronto.

Obstetrics and Gynecology.—President, Dr. A. H. Freeland, Edinburgh, Scotland. Secretary, Dr. Frederick Fenton, Toronto.

Ophthalmology.—President, Mr. Robert M. Gunn, London, England. Secretary, Dr. James M. Maccallum, Toronto.

Pediatrics.—President, Dr. George A. Sutherland, London, England. Secretary, Dr. E. Stanley Ryerson, Toronto.

Pathology and Bacteriology.—President, Prof. J. G. Adami, Montreal. Secretary, Dr. Gideon Silverthorn, Toronto.

Psychology.—President, Dr. William J. Mickle, London, England. Secretary, Dr. A. T. Hobbs, Guelph.

State Medicine.—President, Dr. F. Montizambert, Ottawa. Secretary, Dr. J. Langrill, Hamilton.

Surgery.—President, Prof. Irving H. Cameron, Toronto. Secretary, Dr. H. A. Beatty, Toronto.

Therapeutics.—President, Prof. David W. Finlay, Aberdeen. Secretary, Dr. V. Henderson, Toronto.

ARRANGEMENT COMMITTEES.

Honorary Local Secretaries.—Dr. F. N. G. Starr, Toronto; Prof. J. J. MacKenzie, Toronto; Dr. J. Gibb Wishart, Toronto.

Committee Pathologic Museum.—Chairman, Prof. J. J. MacKenzie, Toronto. Secretary, Dr. Maud Abbott, Toronto.

Exhibition Committee.—Chairman, Dr. Arthur J. Johnson, Toronto. Secretary, Dr. T. D. Archibald, Toronto.

Local Treasurer.—Prof. J. F. W. Ross, Toronto.

Toronto Arrangement Committee.—Dr. George A. Bingham, Toronto; Dr. C. J. C. C. Hastings, Dr. A. A. Macdonald, Dr. J. J. MacKenzie, Dr. Alex. McPhedran, Dr. R. B. Nevitt, Dr. R. A. Reeve, president-elect; Dr. F. N. C. Starr, Dr. J. A. Temple, Dr. D. J. Gibb Wishart.

Reception Subcommittee.—Chairman, Dr. I. H. Cameron. Secretary, Dr. A. Primrose.

Finance Subcommittee.—Chairman, Hon. Dr. R. A. Pyne. Secretary, Dr. William Goldie.

Excursion Subcommittee.—Chairman, Dr. N. A. Powell. Secretary, Dr. C. P. Lusk.

Transportation Subcommittee.—Chairman, Dr. B. L. Riordan. Secretary, Dr. H. A. Beatty.

Dinner Subcommittee.—Chairman, Dr. F. LeM. Grasett. Secretary, Dr. H. A. Parsons.

Subcommittee in Charge of Exhibits.—Chairman, Dr. A. J. Johnson. Secretary, Dr. W. A. Young.

Printing and Publishing Subcommittee.—Chairman, Dr. A. H. Wright. Secretary, Dr. J. N. E. Brown.

Local Entertainments Subcommittee.—Chairman, Dr. H. Crawford Scadding. Secretary, Dr. H. S. Hutchison.

Hotels and Lodgings Subcommittee.—Chairman, Dr. H. T. Machell. Secretary, Mr. F. A. Clarkson.

Membership Subcommittee.—Chairman, Dr. R. W. Bruce Smith. Secretary, Dr. W. H. Cronyn (Rosedale).

FOREIGN.

Plague in Africa.—Consul Hollis of Lourenzo Marquez reports an outbreak of plague at Chinde, with several deaths.

Yellow Fever in Peru.—December 7 the steamer *Loa* arrived at Callas from Panama with eleven cases of yellow fever on board.

Berlin Postgraduate Lectures.—The Berlin Docent-Verein announces the next cycle of postgraduate lectures to commence March 1 and continue to March 28, 1906. The list of subjects and other details can be learned by applying to Melzer, Ziegelstrasse 10, Berlin, Germany.

International Congress for Prehistoric Anthropology and Archeology.—The thirteenth international congress devoted to these subjects will convene at Monaco April 16 to 26, 1906. Further information can be obtained on application to M. Henri Hubert, 74, rue Claude-Bernard, Paris, France.

Exhibition for Tropical Medicine.—During the German "Colonial Congress," held at Berlin, in October, an exhibition of tropical medicine attracted much attention. One of the most interesting exhibits was that of the Woman's League for Care of the Sick in the Colonies. It included a model sick room and kitchen for the tropics.

Less Medical Students in Prussia.—During the fiscal year 1903-4 only 426 degrees were conferred on medical students, and only 363 new medical students were enrolled. The increase in the population and the losses in the profession by death or incapacity require an increase of 550 physicians every year to meet the demand, according to the statisticians. The decrease in the number of medical students is making itself felt in a lack of assistants and substitutes, the supply being much below the demand. The ranks of the practicing physicians still show no gaps, owing to the former overcrowding. The lack is in the younger set.

Darmstadt Police Regulation of Quack Ads.—The city of Darmstadt, Germany, has issued orders that impose a minimal penalty of 30 marks ($7.50) for publishing or advertising articles, remedies or methods of treating or preventing disease in human beings which are liable to injure the health, or in regard to which erroneous or misleading statements are made or deception practiced. The same penalty is imposed also for treatment by letter without personal examination, and also on those who recommend a *Heilgewerbetreibenden*, that is, a person making a business of the healing art outside of professional circles, by false or misleading statements in regard to his preliminary training, capability or successes.

Plague in China.—Consul-General Sammons, Niuchwang, reports that at a meeting of the consular body, held at the American consulate-general, in that port, immediately after the notice of the existence of the plague there, it was agreed to co-operate in the enforcement of every necessary precaution in stamping out the disease. Steps have been taken to isolate the infected locality and to conduct a careful medical inspection of the inhabitants within the isolated limits. All passes authorizing the owners to take passage on the military train at Niuchwang for the interior have been nullified. No vessels are to be allowed to go up to Liao until further notice. Traffic between Yingkow and Niuchwang is suspended.

Centennial of Paris Medical Society.—The Société Médico-Chirurgicale celebrated, November 20, the hundredth anniversary of its foundation. It was organized in 1805 by Dr. Duchateau and was called at first the "Confraternelle Médico-Chirurgicale." Membership has always been limited to a certain number, and Desnos, the president, in his address remarked that the society has always been true to its traditions of "work, warm friendship between truly congenial spirits, and solidarity." A banquet followed the anniversary meeting, with a theatrical entertainment and the presentation to each member of an artistic souvenir plaque. An illustration of this souvenir is given, with the description of the celebration, in the *Archives Gén. de Médicine* for November 28.

Study Leave for Officers of the Indian Medical Service.—New regulations have been issued recently with regard to "study leave" for officers of the Indian Medical Service. Extra furlough for study may be granted to officers of the Indian Medical Service on the recommendation of the director general. The period of such leave will be calculated at the rate of one month for each year of service up to a total of twelve months in all during an officer's service. The leave may be taken at any time, but will not be granted more than twice in an officer's service. The minimum period for this leave will be two months and this leave can be combined with any other kind of leave. A sum will be allowed for expenses, the amount depending on the rank of the officer. Study leave will count as service for promotion and pension.

"Leipziger Verband" Engages in Campaign Against Quackery.—The latest news from the German Leipziger Verband ("to promote the economic interests of physicians") is that it has now 18,000 members and rates at more than 8,000,000 marks, about $2,000,000, the increase in the amounts paid by the sickness insurance societies (Krankenkassen) to their medical officers during the last year. This has been accomplished by the direct or indirect backing of the profession organized in this Verband, founded only five years ago. It now announces that a committee has been formed to take up the matter of quackery, and unite with medical and local authorities and local societies to inaugurate extensive and systematic concerted action in a campaign against irregulars. There is already an association for this purpose in Germany, and it is proposed to work in harmony with this organization.

Maternity Work in India.—The Dufferin Fund and Victoria Memorial Scholarship Fund have been presided over by Lady Curzon for nearly seven years, and the work has progressed most satisfactorily. The number of patients attended to at the various women's hospitals has increased considerably and a large number of midwives are under training. The hospitals are being used as training centers and there are now ten more qualified women physicians, seven more assistant surgeons, and 337 more hospital assistants than in 1898. At present 476 women are under medical training apart from dhais and nurses. A fully equipped operating room has been provided in all the hospitals. Under the Victoria Fund, some 286 dhais have been trained and 160 more are undergoing instruction. Only those who know the mortality of childbed in India and the fearful "massacre of the innocents" which is continually going on will recognize to the full the good work which is being done by these two funds.

English-Speaking Meetings in Japanese Medical School.—The *Sei-I-Kwai, No. 5,* contains the address delivered by Dr. L. L. Seaman, before he left Japan, at a meeting of Japanese medical students, at which *only* English was spoken. Five addresses were read by students, the subjects being "Why We Breathe"; "Use of Stomach"; "What Our Skin Does," and similar themes. Seaman qualified the meeting as "unprecedented in the records of professional instruction—a meeting of the entire body of students in a great professional school, in which all of the proceedings were conducted in a foreign tongue, and these exercises were part of the regular curriculum." These English meetings are held at stated intervals at the Tokio University. Seaman commented on the addresses delivered by the students that they revealed the secret of the absence of disease among the Japanese soldiers, especially the address on the stomach. "Your army and navy management," said he, "did not load the stomachs of your soldiers with food that was unsuited to the climate, and that caused fermentation and irritation in the intestinal tract as was the case in our war with Spain."

Practice of Medicine in Buenos Ayres.—A bill to regulate the practice of medicine in the province of Buenos Ayres has been before the parliament of the Argentine Republic for some time, and has been passed in part with only slight modifications. By this measure medical consultations in pharmacies are forbidden. Advertisements in which a cure of all or certain specified diseases, whether at a stated price or otherwise, is promised, are declared to constitute illegal practice. In the same category will fall statements that a therapeutic agent is of infallible efficacy in one or more diseases. The bill provides that a fine shall be imposed on whomsoever shall, directly or indirectly, contribute to the publication of such advertisement. The obligation of professional secrecy is remitted in special cases in which its observance would be attended with danger to the public health or interfere with the penal laws. Special permission is required for the sale of prophylactic or curative serums, modified toxins or organic liquids intended for the cure of diseases; it is also provided that the preparation of these substances shall be subjected to special supervision.

Prophylaxis of Cholera.—The Prussian authorities have announced that in the recent epidemic of cholera in Germany it was found that a number of cases occurred in workmen engaged in haying or working along the shore without any personal contact with the cases of cholera that had occurred along the infected rivers. This fact suggests that the workmen must have become infected by drinking water from the river at points where the water had become infected by contamination from a fresh case of cholera. It is a question whether the cholera germs can be transported by the river to any distance from the point of contamination. The presumption is that they linger in stagnant bays and backwater nooks along the river banks, where they possibly proliferate. To determine this question the authorities have decreed that whenever a new case suspicious of cholera is discovered on a river boat, a number of quart bottles are to be filled with water drawn from the river above and below the spot where the vessel is lying at the time. The bottles must be packed in ice and dispatched in charge of a responsible person to the nearest "investigation station," after previously informing the station by telegraph of the attending circumstances. The decree is given in full in the *Allg. med. Ct.-Ztg.* for November 25.

The Milk Supply of Calcutta.—The Indian correspondent of the *Lancet* states that a committee of the corporation of Calcutta has recently submitted a report on the milk supply of that city which discloses a horrible state of things. In the majority of cases "the cattle were in a filthy condition and were standing in the offensive-smelling filth, inches deep; their udders were covered with muck; the cattle were packed together so closely that there was no room for them to lie down; the sheds were ill-ventilated, the entrances being blocked by platforms on which the gowalas (cow-men) slept, all the air-holes being closed up with mud bricks. This condition of the cow houses has been existent for years. The health officer suggested that certificates should be granted to those dairymen who conduct their business along proper sanitary lines, but the utter inadequacy of such a proposal is evident from the continued failure of the prosecutions instituted, and the committee has ignored the suggestion and has made recommendations of a drastic character. The most important proposal is to establish municipal cattle sheds provided with every convenience and to rent them at a reasonable sum. The difficulties connected with enforcement of the provisions of the municipal act are so great that the corporation will have to do a great deal in supplying filtered water, filling up insanitary tanks, prosecuting more vigorously, and arranging for more thorough and constant inspection. A large quantity of milk is taken into Calcutta from the suburban areas and examinations of this supply have shown very extensive adulteration. The danger of this is that the gowalas will use any dirty water and do not confine themselves to the filtered town supply.

Koch's Report on His Expedition to Eastern Africa.—The preliminary report published by R. Koch in regard to his scientific researches during his year's stay in German East Africa is published in the *Deutsche med. Wochft.* for November 23. He devoted considerable attention to the prevailing relapsing fever, leprosy and sleeping sickness in man and to coast fever and Texas fever in cattle. In an expedition on the main caravan route none of the three Europeans in the party was affected with the endemic relapsing fever. None of them slept in the shelters provided for the caravans, but sought places to sleep where no one had laid before. This was done to avoid the ticks which harbor the spirochetes causing relapsing fever. He found it impossible to infect cattle, dogs or other animals with the disease by inoculating them with blood from cases of relapsing fever. The only exception was monkeys; all his experimental inoculations of monkeys resulted positively. The tick communicating the disease is the *Ornithodorus moubata Murray.* It lives in the soil in the floor of the native huts and shelters, wherever the ground is not exposed to the rain. The spirochetes are found mostly on the ovaries and in the eggs of the tick. The natives are probably infected during youth and acquire immunity later. None of his 60 native porters contracted the disease, although they slept in the shelters, while 4 out of the 5 servants accompanying the party had the fever. They slept also in the shelters. Koch illustrates the cycle of development of the parasite of Texas fever as he traced it in three different varieties of ticks. Also of the parasite of coast fever, which he found only in adult ticks of a certain variety—*Rhipicephalus australis.* He encountered 4 varieties of tsetse flies, and established that the tsetse disease is communicated by the intermediation of 3 of them, the *Glossina morsitans, pallidipes* and *fusca,* especially the latter. Both males and females bite and can become infected, but the female does not lay eggs. It deposits a single whitish larva which assumes the pupa form in a few hours. From ten to twenty days elapse between the birth of these larvæ, so that the female produces only two or three young in the course of a month. This fact may prove important in prophylaxis of the trypanosoma affections. He established further that not all trypanosomata are capable of infecting the glossina, only those which are in a certain condition. Possibly this condition is encountered in the parasites in wild, not domestic, animals.

Yellow Fever in Central America.—Acting Assistant Surgeon Peters, of the Public Health and Marine-Hospital Service, gives an interesting account in *Public Health Reports* of the yellow-fever situation in Central America. The disease made its appearance in Zacapa during the latter part of June. The infection was introduced from Livingston through natives who were permitted to return to their homes in Zacapa after the outbreak of the fever in Livingston, but was not recognized as yellow fever until August, by which time the infection was thoroughly disseminated throughout the town, there being hardly a house in the place which has not had a case of yellow fever. Dr. Peters was unable to obtain any reliable information as to the number of cases or deaths, but well-informed and reliable residents estimate the number of deaths at about 700. At the time of his visit the public health was fairly good. Only a few cases of yellow fever existed, as the force of the epidemic had spent itself and the available material was practically exhausted. At the time of the outbreak of yellow fever a great number of people left and went to the mountains, leaving only about 3,500 in the place during the height of the fever, and it is these returning and others from the adjoining places who come into Zacapa who are furnishing the material for keeping up the infection. This is the first time yellow fever has ever appeared in Zacapa. Sulphur has been burned on the street corners with the idea of purifying the atmosphere. No attempt has been made to destroy the infection in the place used as a lazaretto during the epidemic. It was simply a thatched shed with the sides inclosed, and was used for treating the poor. It could easily have been burned, as it would be impossible properly to fumigate it. Gualan is situated on a hill, and is about 500 feet above sea level. It has a population of about 1,500. It is on the railroad, 80 miles from Puerto Barrios and 21 miles from Zacapa. The first cases of yellow fever came under observation in August. The yellow-fever patients in the railroad hospital were kept under bars, and every precaution was used to prevent the spread of the infection, no standing water being allowed around the buildings; but in the town itself nothing has been done. Dr. Peters states that one of the foci is in the barracks itself, in which a number of cases of yellow fever have developed and are still developing, no effort being made to destroy the infection. All along the line of the railroad from Puerto Barrios to Zacapa, wherever there is a station, he invariably found the stegomyia present.

LONDON LETTER.

The President of the Royal College of Surgeons on Medical Education.

At a dinner given at the Society of Apothecaries, Mr. Tweedy, the president of the Royal College of Surgeons, in responding for that body, claimed that it would meet any test of efficiency that could be applied. The statistics of the last ten years, he said, showed that the number of students entering the profession in England is declining, and he believes that it will continue to decline. In accordance with the promptings of the general medical council the standard of general education of students has been raised and the multiplicity and severity of the examinations has been increased. He would like to see the wheel turned back a little. Too much is being attempted in the way of examinations. He desires to see steps taken in the direction of simplifications without any sacrifice of efficiency. If some of the restrictions and regulations are relaxed he believes that a better practitioner than is possible under the present conditions would be produced. The student is overtaught and overexamined, so that he has no time to reflect, and to exercise his reason and intellect. The whole system, Mr. Tweedy said, is one of rush and cram. The Society of Apothecaries and the Royal College of Physicians and Surgeons have done their best to resist this encroachment and the mushroom-like growth of universities throughout the land. He believes that medical examinations are best entrusted to professional corporations.

The Prevention of Consumption.

A remarkable meeting at which all classes from the royal family to workmen were represented has been held in support of the scheme to provide sanatorium treatment for the working classes. The Princess Christian of Schleswig-Holstein, president of the national association for the establishment and maintenance of sanatoria for workers suffering from tuberculosis, represented the royal family; representatives of both houses of parliament, a bishop, municipal authorities, and hundreds of labor delegates and members of friendly societies and trade unions, many of whom wore their insignia of office, filled the body of the hall. It was announced that a sanatorium of not too expensive a character was being erected in Kent, where 250 acres of land had been acquired. On the grounds were two farms, where cured consumptives could gradually be trained to resume work. It was pointed out by one speaker that it would be more economic for the friendly societies to prevent and to cure the disease than to take the consequences of it and to pay sick allowances and funeral expenses.

The Dangers of Anthrax.

The danger of working among camel's hair and "low foreign wools" is shown by a case which recently occurred at Bradford. A coroner's jury returned a verdict of death from anthrax of a woman who had been employed as a finisher on camel's hair and low foreign wools. The inquiry showed that though these materials had been "sorted, washed, willowed, carded and combed," the anthrax bacilli had not been removed nor had they lost their vitality. Something more, therefore, should have been done before those working among them could do so safely.

Japan and Medical Practice.

At the meeting of the general medical council Dr. MacAlister, the president, stated that a communication had been received from the government stating that application had been made to his majesty on behalf of the Japanese government, requesting that Japan might be recognized as one of the countries to which the medical act of 1886 applies, thus enabling Japanese doctors to practice in the Straits Settlements as well as in other parts of the British empire. Inquiries have been instituted for the purpose of ascertaining the conditions under which British practitioners are permitted to practice in Japan; should these prove satisfactory and should an order in council be sanctioned, it will fall to the general medical council to consider what medical diplomas granted in Japan shall be recognized for registration in Great Britain.

A Mysterious Epidemic.

At the conference of health officers for London and the neighboring counties Dr. Freemantle, health officer for Hertfordshire, *reported that an epidemic* simulating cerebrospinal meningitis was first brought to the attention of health officers last January, when several persons, often of the same family, were attacked by a disease presenting symptoms, sometimes resembling those of scarlet fever, sometimes of tuberculosis, sometimes of meningitis, sometimes of influenza, and sometimes of cerebrospinal meningitis. Notes were obtained of 162 cases treated dating back to August, 1904, of which 16 were fatal.

Pharmacology

What Are "Proprietary" Medicines?

There seems to be a decided misunderstanding of the meaning of the term "proprietary" medicine, and before condemning one should realize what this term "proprietary" means. If all proprietary medicines are to be condemned, then the Council on Pharmacy *and* Chemistry has no cause for existence, for its work is to examine and to pass on such articles.

Proprietary medicines are those which some one owns; those that are the property of some one. Their ownership or proprietorship is held in two ways: (1) By a patent, or (2) by a trade or copyright name.

1. Patented Medicines. A patented medicine is one on which a patent has been granted. This requires that a full description of the article be filed with the Government, which description can be obtained by anyone for 5 cents by writing to the Patent Office. These are non-secret (patent means open); and the protection lasts for seventeen years. Some of our better preparations were patented, such as antipyrin, sulphonal, lanolin, but the patents have now expired. So long as the patents were in force these preparations were "proprietary medicines." Phenacetin is patented, the patent expiring next March. Until then it will be a "proprietary medicine." Alphozone, acetozone, thiocol, creosotol and other well-known remedies are patented medicines, and therefore proprietary. There is no objection to them, if they are advertised and marketed in an honest way.

2. Copyrighted or Trade-Named Articles. The vast majority of the preparations on the market in this country come *in this class.* They are proprietary in that the name given them is owned and controlled by some one. The name is the thing in this case. Nearly, but not quite, all the preparations that are sold under trade names *are to be condemned* because the composition is secret in character. If the composition is known, and if the remedies are honestly exploited, they are *not* necessarily to be condemned. One serious objection applies to all copyrighted or trade-names—they are a perpetual monopoly. A patented article becomes public property after seventeen years, but a trade-named article never does.

"Patent medicines" come in this class, the term being used to designate those advertised and sold directly to the public. The name, of course, is a misnomer, for they are not patented medicines. We suggest that the words "patent medicines" be always placed in quotation marks when the proprietaries advertised to the public are meant, so that there may be no misunderstanding. The word "nostrum" means "A medicine, the ingredients of which are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor."—Webster. Hence, all proprietary medicines which are in any way secret come under this category.

Medical Literature "Made in Germany."

Some weeks ago[1] we called attention to a petition that was being circulated among the members of the profession of Germany as a protest against paid write-ups. The following abstract of matter taken from one of our German exchanges refers to the same subject and emphasizes what has been charged for some time, i. e., that paid write-ups are being published in German journals to be re-copied in this country. There seems to have developed the impression that anything "made in Germany" must be all right. The number and variety of mixtures that are simply nostrums that are being imported from Germany, and from France for that matter, should put physicians of this country on their guard, and especially against accepting as truth everything that is published in German journals or because the Germans said it. In the *Zeitft. f. aertzl. Fortbildung,* No. 17, is an article on the subject that should make interesting reading at the present time:

The petition cites as a typical example of the evil, the medical write-ups published on behalf of ———, stating that not only the manufacturers themselves, but their American agent ("an American journalist") have paid out hundreds of dollars for favorable articles on this new product, written by physicians who were not in a position to form a decisive judgment in regard to the curative value of the remedy. A letter from the American agent to a Berlin specialist and his reply are quoted, the condition of "strict secrecy" being explicitly demanded by the latter. The sum asked and paid was 2,000 marks ($500). For other write-ups the manufacturers or their agent have paid out sums ranging from 1,000 to 4,000 marks ($250 to $1,000). These investments have proved profitable, as a purchaser has been found in America who has signed a contract for a large sum—$125,000 it is rumored. An editorial in the *Zeitft. f. aertzl Fortbildung,* No. 17, quotes the above from *Die Post,* with the comment that the medical chambers (Aerztekammer) have too little jurisdiction in such matters to arrest these practices arbitrarily. They will stop only when the medical profession as a whole resolve to repudiate and to expose such practices as extremely injurious to the reputation of the profession, and does everything in its power to combat them. In a later issue, No. 19, the *Zeitft.* states further that the manufacturers of ——— have since written to *Die Post* publicly disclaiming all responsibility for the actions of their American agent. His business affairs are entirely independent, they say, of the business of the home office, and are not under the control of the latter. Consequently, they can not be held responsible for the means he has adopted to further his business aims. The editorial comments that this explanation does not alter the aspect of the case, as the home office has not repudiated nor dismissed the American agent.

Kansas Against Nostrums.

At its last meeting the Kansas State Medical Society adopted the following resolution, which was offered by Dr. W. H. Graves:

> *Resolved,* That the council of the Kansas Medical Society endorse the action of the national organization in refusing to insert advertisements of secret preparations, and recommend to the editor of the *Journal of the Kansas State Medical Society* that, as fast as present contracts expire, space be refused to such secret preparations.

This resolution was discussed by all present and was adopted unanimously.

Work of Council Indorsed.

The following resolutions were adopted at the December meeting of the Will County (Illinois) Medical Society:

> *Resolved,* That the Will County Medical Society expresses approval of the action of the American Medical Association in establishing the council on Pharmacy and Chemistry.
>
> That this society indorses the work of investigating non-official drugs and medicinal preparations.
>
> That the society gives its hearty support to the educational campaign regarding secret nostrums and commends the good work of The Journal of the American Medical Association.
>
> F. C. Fisher, Secretary.

At the regular meeting of the *Fort Wayne* Medical Society (the Medical Society of Allen County), December 5, the following resolution, presented by Dr. M. F. Porter, was passed:

> *Resolved,* That the *Fort* Wayne Medical Society approves of the appointment of the Council on Pharmacy by the American Medical Association, and of the efforts the members of this council are making to rid the country of those [illegible] and their products, which, while sailing under [illegible] really doing a business alike disgraceful and [illegible] also commends the editor of The Journal of [illegible] Association in the vigorous assistance he is gi[illegible] council.

Resolutions Regarding Dr. Billings' Paper.

Albuquerque, N. M., Dec. 7, 1905.

To the Editor:—I forward herewith a copy of the resolutions passed at the last meeting of the Bernalillo County Medical Society and request that you bring them to the attention of

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1. The Journal, October 21, p. 1264.

the profession through THE JOURNAL with the view of securing some concerted action. W. W. SPARGO, M.D.

WHEREAS: Dr. Frank Billings, of Chicago, read before the Portland meeting of the American Medical Association an article entitled "Nostrums," which was printed in THE JOURNAL of the American Medical Association, a publication owned by the medical profession, and for the use and information

WHEREAS: One at least of the a compound drug and offering it to the profession and public under a copyrighted name, not representing the ingredients, has threatened the journals issued by the various state societies with suits for libel if the said journals reprinted Dr. Billings' article; and

WHEREAS: Many of these corporations alluded to in Dr. Billings' article have banded themselves together under a distinctive name and are commonly accredited with controlling many of the medical journals published, but not including those owned by the State Societies; and.

WHEREAS: There are many manufacturing drug companies who are willing and do publish the ingredients of their manufactured articles; therefore, be it

Resolved, That the members of the Bernalillo County Medical Society, feeling that as physicians they have a right to know the composition of all drugs used by them, refrain hereafter from using such articles as do not contain on the label attached the ingredients of which they are composed; and that they dispense or prescribe the products of such houses as comply with the above requirement; and,

Resolved, That the members of said society deny the right of any drug manufacturing concern to prevent any legitimate investigation into the composition of their manufactured articles; and that the Board of Trustees of the American Medical Association shall be requested by the secretary of this society to take such steps as shall lead to a concerted action of the medical profession, calling on the government and congress to enact such laws as will make impartial analyses of such articles compulsory; and,

Resolved, That the said society will co-operate with the state society in maintaining the right of the journal of this state society to publish any legitimate professional information; and be it further

Resolved, That a copy of these resolutions be forwarded to THE JOURNAL of the American Medical Association, be published in the *Journal of the Medical Society of New Mexico,* and also be furnished to the retail druggists of this city.

DUFFY'S PURE MALT WHISKEY.

Fraudulent Testimonials.

We have repeatedly asserted that there is no dividing line between nostrums advertised to the public in newspapers—"patent medicines"—and those advertised to the medical profession—"proprietaries." Many are advertised both to the public and to the profession openly—because there are medical journals that will take such advertisements. It is not our intention to expose the fraudulent character of so-called "patent medicines" except incidentally, until the fraudulent character of the "ethical" proprietary business has been published to the profession. We refer to Duffy's Pure Malt Whiskey this week because it is among the nostrums advertised to physicians.

We know of no more fraudulent and extravagant claims for any "patent medicine" than those which the proprietors of Duffy's Pure Malt Whiskey make in their advertisements. Their claims for it as a health restorer equal those made for peruna, liquozone, wine of cardui and similar nostrums.

But "Duffy's Pure Malt Whiskey" is advertised in medical journals!

A Sample Testimonial.

Some months ago a big display advertisement of Duffy's appeared in the newspapers. It was accompanied by a photograph of an old lady and by the old lady's testimonial. Here is the testimonial, with some of the comments on it that appeared in the "ad.":

"A DEAR OLD SOUL ACTIVE AND HAPPY AT 106.

"Mrs. Nancy Tigue, of Lafayette, Ind., Although in Her 106th Year, Says:

"'I Really Don't Feel Like I'm a Day Over 60, Thanks to Duffy's Pure Malt Whiskey, Which Is the Real Secret of My Great Age, Health, Vigor and Content.'

"Mrs. Tigue Is Blessed with All Her Faculties and Does Exquisite Fancy Work Without Glasses. She is as Spry as Many Women Half Her Age.

"With the Help of the Invigorating and Life-Giving Powers of This Wonderful Medicine Mrs. Tigue says She Expects to Live Twenty-five Years Longer.

"'I will be one hundred and six years old,' writes Mrs. Tigue, "on the fifteenth of March, and really I don't feel like I am a day over sixty, thanks to Duffy's Pure Malt Whiskey. Friends say I look younger and stronger than I did 30 years ago. I have always enjoyed health and been able to eat and sleep well, though I have been a hard worker. Even now I wait on myself and am busy on a pretty piece of fancy work. My sight is so good I don't even use glasses. Am still blest with all my faculties. The real secret of my great age, health, vigor and content is the fact that for many years I have taken regularly a little Duffy's Pure Malt Whiskey, and it has been my only medicine. It's wonderful how quickly it revives and keeps up one's strength and spirits. I am certain I'd have died long ago had it not been for my faithful old friend 'Duffy's,' August 10, 1904.'

"Duffy's Pure Malt Whiskey
"Is the Comfort and Support of Old Age.

"The sincere and grateful tribute of Mrs. Tigue to the invigorating and life-prolonging powers of Duffy's Pure Malt Whiskey is one of the most remarkable and convincing on record. She sews, reads and is dependent upon no one for the little services and attentions of old age. Mrs. Tigue's memory is perfect, and her eyes sparkle with interest as she quaintly recalls events that have gone down into history of the past hundred years. Instead of pining, as many women half her age, she is firm in the belief that with the comforting and strengthening assistance of Duffy's Pure Malt Whiskey she will live another quarter of a century."

These statements were so remarkable that we wrote to two physicians of Lafayette for facts. It seems that one of the Indianapolis newspapers published an item regarding Mrs. Tigue having reached her one hundred and fifth birthday, and evidently this was the cue for the Duffy exploiters.

The following letter is from Dr. George F. Keiper, one of the councilors of the Indiana State Medical Association. As the eye and ear surgeon to St. Elizabeth Hospital he visited that institution every day, which explains his personal knowledge of the case.

LAFAYETTE, IND., NOV. 18, 1905.

My Dear Doctor:—Yours of the 14th has been received; also a copy of an advertisemer newspapers last winter, which contains, among tograph of Mrs. Nancy Tigue, and also, amon the following: "Mrs. Nancy Tigue, of Lafayette, Ind. Although in Her 106th Year, Says: 'I Really Don't Feel Like I'm a Day Over 60, Thanks to Duffy's Pure Malt Whiskey, Which is the Real Secret of My Great Age, Health, Vigor and Content.'".

I have had several interviews concerning Mrs. Tigue and this testimonial. I have known the old lady for a number of years and, to my certain knowledge, she has never used alcoholics in any form. I used to see her every day at St. Elizabeth's Hospital. I interviewed Sister Bernardi, the Sister Superior of St. Elizabeth's Hospital, where Mrs. Tigue was for a number of years. The Sister Superior says that Mrs. Tigue never took any whiskey while there. I further asked Sister Benigna and Sister Aloysia and they both denied that she used Duffy's Malt Whiskey.

For the past three or four years Mrs. Tigue has been at St. Anthony's Home for the Aged, going there from St. Elizabeth's Hospital when the Home was opened. This Home is a branch of St. Elizabeth's Hospital. Sister Frances is in charge of the Home, and she told me that Mrs. Tigue has never taken a drop of any kind of whiskey while there.

I also saw her son, Mr. Michael Tigue. The advertisement of Duffy's Malt Whiskey filled him with indignation passing all bounds. He corroborated all that the Sisters told me, and he further told me that when this advertisement appeared, he had some sharp correspondence with the Duffy people.

The photograph used in the advertisement was obtained by a party who said he wanted to use it in one of the Indianapolis papers. *Of course, misrepresentation was resorted to.*

Concerning the testimonial: The man who obtained it, went to Mrs. Tigue and requested her to sign a testimonial concerning Duffy's Malt Whiskey, but she said she never used it, and the agent was told to see her son. The man then saw Mr. Michael Tigue, who refused to grant his request. The agent then took a notary public to the Home and represented to Mrs. Tigue that her son told her to sign the testimonial. Very truly yours,

GEORGE F. KEIPER.

Dr. W. W. Vinnedge is another Lafayette physician to whom we wrote. His letter we quote:

LAFAYETTE, NOV. 21, 1905.

Dear Doctor:—In response to your inquiries as to Mrs. Nancy Tigue of Lafayette, I beg to say that I investigated her case as to Duffy's Malt Whiskey somewhat less than a year ago. . . . This morning I found Mr. Michael Tigue, single, stone-cutter, ex-township trustee, 58 years old, son of Mrs. Nancy Tigue, and . . . he dictated and signed the enclosed statement. . . . You have been misinformed in one particular, Mrs. Tigue does not live in a home for feeble-minded, but in the Old People's Home, under the care of the Poor Franciscan Sisters. I visited her there twice in the early part of the past summer, saw her sitting by her bed fully dressed, saw her led across the floor by a Sister with a hand under her (Mrs. T's.) elbow, and she appeared to be nearly blind, as the Sister said. The old lady, however, is fairly intelligent, and while very senile in appearance talked understandingly. She and the Sister assured me that she drank no intoxicating drinks at all, and never had done so, and from their manner and words I saw that they thought the report ridiculous. I am sure that the old lady knows nothing at all about Duffy's Malt Whiskey.

As to the testimonial given by the old lady. About a year ago a young man from Indianapolis, a newspaper man, got off the train here one morning and called on Mr. Mike Tigue, and asked for a testimonial. Mr. Tigue gave him permission to see his mother, but refused the testimonial. The enterprising young man hired a horse and buggy from a livery stable, and taking Mr. Oscar Campbell, notary, Lafayette, drove out to the Old People's Home, about two miles, and saw the old lady, led her to think that her son Michael had sent them, that he wished her to sign the testimonial, which she did by making her mark, and without having a clear idea of the contents of her statement, and without having any idea at all of what use was to be made of it. You know the balance.

Later, as I am informed, Mr. Michael Tigue wrote, or caused his attorneys, Messrs. Kumler & Gaylord, Lafayette, Ind., to write to the Duffy Malt Company protesting against the use of his mother's name, forbidding it. Finally, he told me to-day, the firm quit publishing her picture and statement in the newspapers, but it is in press and will appear in Duffy's book soon; they could not "cut it out" of that at this stage. If you wish any additional information and will indicate what it is. I will be very pleased to try to get it and to help along the good work in which you are engaged.

Very truly yours,
W. W. VINNEDGE.

The following is the statement referred to, made by Mr. Tigue:

Lafayette, Nov. 21, 1905.

To Whom it May Concern:—I am the son of Mrs. Nancy Tigue, who is now an inmate of the St. Anthony's Home, and I am 58 years old. My mother is one hundred and five years old, was born in Ireland. Our home is, or was, 413 S. 1st St., Lafayette. Mother is almost blind, and she has been cared for by the Sisters about four years—one year at the Old People's Home. My mother never drank any intoxicating drinks at all. She does not know what Duffy's Malt Whiskey is. She was imposed on in order to obtain the advertisement of Duffy's Malt Whiskey, being nearly blind was influenced to sign a false affidavit by Duffy's solicitor, which was published without our knowledge or consent. Michael G. Tigue.

Still Duffy's Malt Whiskey must be "ethical," for is it not advertised in reputable medical journals!!

Centenarian Feels Like a Girl.

A "companion piece" to the above is the picture and testimonial of Mrs. Louisa Cox of Harrington, Maine. This is still appearing in the newspapers, or was a month ago. Here is the testimonial as it appeared in the newspapers:

"Harrington, Me., May 20, 1904.

"*Gentlemen:*—I am 105 years old. I am well, without a pain or ache. I sleep as well as I did when I was a girl. I use your whiskey and like it very much. Duffy's Pure Malt Whiskey is the only medicine I use. I get water from the well, bring in wood, and do my housework. Mrs. Louisa Cox."

The advertisement is accompanied with the usual extravagant claims and statement, but we have only space for one quotation. In this advertisement we are told that:

"There are 4,000 men and women in this country alone who have passed the hundred year mark, and nearly every one of them has publicly acknowledged that he or she owes health, *strength*, continued use of all the faculties, and extreme old age to Duffy's Pure Malt Whiskey, the great cure and preventive of disease, the true elixir of life."

Four thousand people in this country over 100 years old have publicly acknowledged that they use Duffy's Malt Whiskey!! Think of this statement and then realize that Duffy's Malt Whisky must be an "ethical" preparation, for is it not advertised in reputable medical journals?

We wrote to Dr. E. A. White, Columbus Falls, Maine, and asked him to investigate the case. Dr. White replies as follows:

Columbia Falls, Me., Nov. 11, 1905.

Dear Doctor:—In accordance with your request I went to the home of Mrs. Lovisa Cox (not Louisa as appears in the advertisement). She tells me she will be 107 the 12th of January, 1906. She says she never took Duffy's Pure Malt Whiskey or any other whiskey in her life. Never took but very little medicine any way. Her daughter, Eliza A. Shaw, with whom the old lady lives verified the statement. You will notice a statement from her on the back of your enclosed yetter. She knows about the advertisement which has appeared in the *Bangor Commercial*, a paper printed in Bangor, Maine. She has been interviewed a number of times about the matter and always denied it. Calls it a lie. The advertisement is in the *Bangor Commercial* now, same as the one you sent me. An article came out in the *Bangor News*, another paper printed in Bangor, Maine, denying the statement of the old lady's appearing in ad. of the *Commercial*. The old lady can neither read nor write, so if she made her cross (x) under any statement she would have no way of knowing really what it contained, thereby giving some unscrupulous person a chance to deceive her. I do not think this was even done. I do not charge you anything for my trouble; am only too glad to help you to unearth such frauds. Let me know if you need anything more. Yours, E. A. White.

On the back of the letter to Dr. White is written with pencil the following:

This is to certify that I, Eliza A. Shaw, daughter of Mrs. Lovisa Cox, know that my *mother never* has taken Duffy's Pure Malt Whiskey, or any other whiskey for medicine.

Witness: Susie A. Shaw. Eliza A. Shaw.

A letter to the postmaster of Harrington, Maine, brought the following reply:

Harrington, Me., Nov. 13, 1905.

Dear Sir:—Relative to enclosed ad. would say that party in question has never used liquor in *any form* and can secure her affidavit to that effect if you care to bear the expense. Party lives some four miles from town: it would be necessary to drive out in order to interview her. Yours, Wm. N. Dyer, P. M.

Those who want further information regarding the character of the Duffy testimonials should refer to the article in *Collier's Weekly*.

For the wonderful virtues of Duffy's Malt Whiskey, as a medicine, we respectfully refer to the advertisements appearing in the newspapers of the country.

The advertisement of Duffy's Malt Whiskey is appearing in some well-thought-of medical publications. Would it not be well for those physicians who are subscribing to and supporting such publications to write to the publishers regarding this insult to their intelligence? Of course, the cancellation of a few subscriptions does not compare with the amount received from a several hundred dollar advertising contract, and the publishers who have only the financial end in view will not be materially impressed at first. Still, every little counts, and if the profession will take up this matter it will surely have some effect at least.

Correspondence

Fees for Life Insurance Examinations.

Skippack, Pa., Nov. 29, 1905.

To the Editor:—In the light of and with the knowledge daily brought before us of "high financiering" as exemplified in the old-line life insurance companies of New York, with more to come, it would seem that any physician who makes an examination for a fee of three dollars or less is, to say the least, "easy." Some men have refused to examine an applicant for such a fee, only to be sarcastically informed by the agent that there were "others," not only waiting but anxious. Unfortunately he was telling the truth. We are cheap. Medical societies should take this matter up.

J. Newton Hunsberger.

The Burning of the Books.

Chicago, Nov. 24, 1905.

To the Editor:—No species of vandalism has ever aroused such universal execration as the wanton destruction of literature and records, whether accumulated for that purpose or captured with other acquisitions of victory. In modern times the easy production and multiplication of books has brought the dignity and presumptive value of the book to a low ebb; and, while the ancient tome had, from its very existence, a modicum of permanent value, the book of to-day may be valueless and a mere incumbrance, either because of its primary inherent worthlessness, or its worthlessness in a particular form, or on account of the enormous edition, or an edition made incomplete by abridgement, by faulty translation, by reproduction on poor paper, in bad print or with other defects. To the bibliophile any book within his horizon has a certain bibliographic, literary and commercial value, based on fluctuating interest and fluctuating supply and demand. To the student a book is valuable for the data or the literature which it contains. To the antiquarian and second-hand book dealer a book is worth just so much as he can get for it. To the paper maker all books are valued by the pound or ton.

In modern times the great public library has come to be a hopper, into which the private libraries of declining families, dissolving households and defunct societies naturally tend, and as a result the store rooms of the principal libraries are flooded with an unsorted mass of books, magazines and manuscripts. The value of these contributions is not great, yet each wagon load contains a few volumes desirable for exchange and one or two worth binding and preservation, and every few months a rare book is added to the archives of history.

We may almost condone the affront which is offered our regard for the book when the management of these great libraries stealthily and covertly disposes of carloads of material to the paper maker.

A now prominent scholar and author who, thirty years ago, published a masterful reflection of his instructor's theories and conceptions in a handsome book has, during the past twenty years, gradually bought up and consumed in his furnace and fireplace every obtainable copy. He has slowly raised its price from two cents a pound to twenty-eight dollars and a half a copy, and from taxing the capacity of his furnace with the annual consumption he now has scanty material for folded lamplighters on his mantelpiece. We may doubt whether the silent influence of the printed page, even of the full edition, was as subverting to public morals as the active bid of the increasing price is to systematic larceny from library shelves.

In spite of the aggravation to which the baited librarian and sometimes the unhappy author yield, it is painful for us to see the printed page consumed. We turn away from the bonfire and the paper mill with a pang and look on the ruffled books stripped of their covers with regret. Nevertheless there is a book which deserves this fate. It merits the worst form of destruction; its pernicious influence is more deadly than all the bacteria and contagion which its greasy covers and soiled pages can harbor. It deals death and gives complacency to the widespread destruction of adults, youths and infants. There are few epidemics that destroy as many as the endemic of this dirty book. If the boards of health are called on to arrest epidemics; if they may use police power to abate nuisances destructive of health or life, this power and this function ought to be called in play to exterminate this death-dealing book.

The antiquated text-book of medicine is a positive and widespread danger to society. It perpetuates and makes active the baleful influence of our medical forbears. This influence is greater the greater the authority and the more permanent the position of the author. If a man has done his work before he is 50 and ought then to step aside and give place to the young, the medical text-book has outlived its usefulness in one-tenth that time. The libraries of sixty thousand physicians are encumbered, their practices vitiated and their patients put to unnecessary suffering and danger by the sixty thousand antiquated Oslers. How boldly the vanquished physician standing at the bedside of his unfortunate patient quotes, to his complacency and the palliation of his defeat, the dictum of an Osler of the edition of 1894, and with what humility, not to say astonishment, would he read the reversal of that opinion in the last edition! The antiquated textbooks of medicine of ten years ago, especially those that treat of the care of infants and the treatment of genito-urinary diseases and general medicine, are now supporting the pernicious practices of an army of physicians, in whose hands they cause uncalled-for and immeasurable suffering and no small mortality. These old books, however, maintain an unquestioned dignity and respectability, while the automobile and cigarette call forth columns of malignant abuse, interminable persecution and drastic legislation. Single lines have been followed by a weeping and limping procession, which the repeated recantation of the author in subsequent editions and the earnest and dramatic teaching in class room, lecture hall and journal has been unable to arrest. The curse of modern medical book selling is the antiquated text-book. The book agent foists his wares on the indulgent physician who scarcely turns in his last payment on a good book before it is superceded by another edition made necessary by the rapid advance in medical diagnosis and treatment. Since we have referred to Osler, let us take as illustrations the diagnosis and treatment of any of the diseases of the abdominal viscera in the last edition and the edition of ten years ago. Could there be a greater contrast between the teachings of any medical sect and that of rational medicine than between Osler's own account of the non-malignant diseases of the stomach, the diseases of the biliary apparatus, dysentery and appendicitis[1] in these two editions? Nevertheless we hear the Osler of ten years ago quoted ex cathedra in every medical society and often at the bedside with no appreciation of its melancholy import. Should an attorney quote the decision of a court which had for ten years been reversed, he would be sharply corrected by the opposing counsel. The patient's advocate, the physician, meets, unfortunately, a silent plaintiff in a court of unquestioned justice. When he meets defeat he departs, often unconscious of his remissions, and even the autopsy fails by its rarity and novelty to jolt the complacent and luck-trusting practitioner into the serious consideration of the rapid advance of his art.

104 East Fortieth Street. Bayard Holmes, M.D.

Acetozone Solutions.

New Haven, Conn., Dec. 3, 1905.

To the Editor:—I am anxious to learn if any one else has had any experience in the use of acetozone solutions for injection into the spinal canal after lumbar puncture in cerebrospinal meningitis. I have used it recently with apparently good results in two severe and protracted cases. In both these cases puncture had already been required to relieve urgent pressure symptoms, but, while successful in this respect, the procedure had been without effect on the temperature. After the acetozone injections this remained nearly normal. A weak solution (5 grains to quart) was used, the patients being aged 7 and 4 respectively. In the first case 30 c.c. of fluid were withdrawn and 15 c.c. of the acetozone solution injected; in the second case 35 c.c. were withdrawn and 15 c.c. injected. In the acute fulminating cases, in which death takes place before the formation of much fluid, such injection would be difficult and probably ineffectual. Probably stronger solutions can be used. Louis S. De Forest.

Is the Bituminous Coal Miner Immune from Tubercular Infection While Actively Engaged in His Occupation?

DuQuoin, Ill., Nov. 21, 1905.

To the Editor:—After an experience of 25 years in one of the largest coal mining towns in southern Illinois, and during this time having under my observation from 700 to 1,200 coal miners; and after careful enquiry among the oldest miners in this locality as to the number of coal miners that have been infected with this dreadful disease, I have been forced to the conclusion that bituminous coal miners, while actively engaged in their occupation, are practically immune from tubercular infection.

About seven years ago I commenced the treatment of whooping cough by sending the patient down in the mines immediately after the miners had fired a shot; having the patient inhale the gas and powder smoke for one and a half to two hours at a time. I found that one or two sittings was sufficient to effect a cure in from four to six days, and without other medicine.

This was followed up until I have on my records from 75 to 100 cases, ranging in age from 3 months to 27 years. This treatment has passed so far as my experience goes, from the experimental stage to the stage of confirmation. It is so successful and is now so well known in this locality, the miners take their children so affected into the mines, without consulting a physician, and always with the happiest results.

In June, 1905, I obtained from the coal operators "Blue Book," and from a United States medical directory the addresses of 600 physicians practicing in the coal mining towns of Illinois, Indiana, Ohio, Pennsylvania and West Virginia. I carefully selected the names of those who had practiced not less than 10 years, and sent to them a circular letter containing four questions, and enclosing with each a stamped, addressed envelope for reply, in order that I might gather from their experience some statistics on the liability of coal miners to tubercular infection, while actively engaged in their occupation. The following is the text of the body of the letter and the four questions:

> *Dear Doctor:*—In order to obtain statistical information from those of my professional brothers who can speak from experience and observation concerning the frequency and liability of infectious tuberculosis among coal miners as a class, I respectfully submit the following questions:
>
> 1. How much professional experience have you had among coal miners?
> 2. About what per cent. of all coal miners who have come under your professional observation have had infectious tuberculosis?
> 3. About what per cent. of those who, of your own knowledge, had been exposed to tuberculosis have been infected?
> 4. Taking into consideration their usual habits of life, together with their daily exposure, do you consider coal miners, as a class, immune from tubercular infection while actively engaged in their occupation?

As a result of these inquiries I have thus far received in reply over two hundred letters. Of this number about 75 per cent. give as their experience and observation, that during active service in his occupation the bituminous coal miner is immune, wholly or in part. M. C. Carr, M.D.

The Psychopathic Manifestations of the Non-Insane Psychoneuroses.

New York, Dec. 8, 1905.

To the Editor:—In the valuable article under the above title in The Journal, December 2, Dr. John Punton makes some timely remarks on inexact nomenclature. I wish to add some suggestions: As physicians giving the word in our own language, we say disease of the mind and not disease of the soul; German physicians say *Geisteskrankheit*, which is also distinctly disease of the mind in distinction from *Seelenkrankheit*, disease of the soul; the French say likewise disease of the mind, namely, *frénésie*, and not disease of the soul, which would be *maladie de l'âme*, and the Greeks, like Frenchmen and Germans, in their own language call it phrenopathia, when they mean the medical term, not psychopathia; they do not say psychocomion, but phrenocomion for lunatic asylum. At this occasion no criticism is intended, but only statement of facts. Another fact is that psychosis in Greek means animation, infatuation, inspiration, but never mental derangement; the correct word for alienation of the mind is phrenitis, an excellent term. It is to be assumed that everybody knows by this time that the suffix "itis" does not necessarily mean inflammation. Phrenitis means distinctly a morbid affection of the mind. The new term suggested by Dr. Punton, "psychosomatasthenia," is rather Lexicon-Greek; phrenosomatitis would express the same meaning, but I would not dare to offer it for adoption before consulting Greek friends, if it would be acceptable. A. Rose.

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[1] "The medical treatment of appendicitis can be expressed in three words—rest, opium and enemata."

Marriages

David M. Rank, M.D., to Miss Susie F. Herr, both of Annville, Pa., November 28.

John Lehr, M.D., Lykens, Pa., to Miss Laura B. Hehring of Reading, Pa., November 29.

Raymond G. Olson, M.D., to Miss Charlotte E. Burke, both of Muskegon, Mich., December 4.

James S. Akehurst, M.D., Baltimore, to Miss Agnes Hance of Stewartsville, N. J., December 3.

Walter M. Bowers, M.D., Bassett, Iowa, to Miss Clara Belle Parks of Waterloo, Iowa, December 5.

Napoleon Bertrand Ross, M.D., to Miss Mary Agnes Loughlin, both of Sonyea, N. Y., December 2.

Harry C. Diltz, M.D., Wilkinsburg, Pa., to Miss Elsie Pamilla Smith of Derry, Pa., December 7.

Thomas D. Maher, M.D., San Francisco, to Miss Josephine Hannify of Sausalito, Cal., November 28.

Waldemar T. Richards, M.D., New Orleans, to Miss Jessie Ross Cotter of La Grange, Ga., December 13.

N. O. Pearce, M.D., Chisholm, Minn., to Miss Elizabeth Carlton Harden of Minneapolis, Minn., December 4.

Edgar Lee Craft, M.D., Sumrall, Miss., to Miss Mamie Amelia Royals of Meridian, Miss., November 15.

George M. Ingham, M.D., Milwaukee, Wis., to Miss Margaret Atwater of Iowa City, Iowa, November 29.

Williard B. Hyde, M.D., Christiansburg, Ohio, to Miss Leo Robinson, Lost Creek Township, at Piqua, Ohio.

Warren E. G. High, M.D., lieutenant (j. g.) U. S. Navy, to Miss Mary L. Knabb of Reading, Pa., December 5.

Arthur A. Pratte, M.D., Keene, N. H., to Miss Marie J. Belanger of Everett, Mass., in Boston, November 28.

Benjamin J. Edger, Jr., M.D., U. S. Army, to Miss Edith Downing of San Francisco, Cal., the last week in November.

Allen Monroe Ottman, M.D., Hilton, N. Y., to Miss Caroline Elizabeth Hatfield of New Hartford, N. Y., November 27.

Charles Hyde Davidson, M.D., Lexington, Va., to Miss Addie McChesney Brown of near Hebron Church, Va., November 22.

Herbert Charles Gibner, M.D., assistant surgeon, U. S. Army, to Miss Charlotte Elizabeth Bruce, at Wawona, Cal., November 30.

Deaths

Charles B. Schoolfield, M.D. Medical College of Ohio, Cincinnati, 1873, of Dayton, Ky.; state referee for Campbell County; president of the county board of health; first president of the Northern Kentucky Medical Society; president of the Campbell and Kenton County Medical Association, and president of the medical staff of Speers Hospital, Dayton, of which he had been a trustee since its opening, died at a hospital in Charleston, W. Va., from sciatica, after a long illness, aged 59. Resolutions of respect and sympathy have been adopted by the societies of which he was so long a member.

William Friend, M.D. Years of Practice, Illinois, 1877; a member of the American Medical Association, Illinois State Medical Society, and Lawrence and Wabash County medical societies, and several times president of the latter organization; for 47 years a practitioner in Lancaster, Ill.; from 1868 to 1872 a member of the State Board of Equalization, died at the home of his son in Sumner, Ill., December 4, from cerebral hemorrhage, aged 77.

John J. Walsh, M.D. University of Buffalo, Medical Department, 1871; a member of the county and state medical societies; some-time sanitary inspector of the Buffalo Department of Health; a member of the Board of Health, and secretary of the Alumni Association of the University of Buffalo Medical Department, died at his home in Buffalo, December 6, after a long illness, aged 57.

John S. Arwine, M.D. Medical College of Ohio, Cincinnati, 1853; member of the Bartholomew County (Ind.) Medical Society; some-time health officer of Columbus, and physician of Bartholomew County, died from heart disease at his home in Columbus, Ind., December 2, after an illness of one year, aged 81. The county medical society passed resolutions of respect and regret.

Herman Emanuel Muller, M.D. University of California Medical Department, San Francisco, 1880; a member of the American Medical Association, Medical Society of the State of California and Alameda County Medical Society; one of the most prominent practitioners of Oakland, Cal., died suddenly at his home in that city, December 2, from acute laryngitis, aged 47.

L. Rollin Hudelson, M.D. Jefferson Medical College, Philadelphia, 1896; a member of the American Medical Association, Indiana State Medical Society, and Rush County Medical Society, died at his home in Milroy, Ind., December 6, from appendicitis, after an illness of one week, aged 48.

Edson Davidge Royal, M.D. College of Physicians and Surgeons in the City of New York, 1904, an interne in the General Hospital, Paterson, N. J., died at his home in Lebanon, Conn., November 28, from valvular heart disease, after an illness of six months, aged 31.

William Perry Bennett, M.D. Ohio, 1877, for many years surgeon of the Pennsylvania Lines at Crestline, Ohio; a member of the American Association of Railway Surgeons, died in his office in Crestline, November 30, from morphin poisoning, aged 49.

Leonard M. B. Ferleman, M.D. Meletanic College of the Netherlands, 1864, of Ithaca, Mich., for many years surgeon on Atlantic liners, died suddenly from heart disease while making a professional call, November 30, aged 62.

Henry J. Thomas, M.D. Rush Medical College, Chicago, 1873, surgeon in the Army during the Spanish-American war, died at his home in Winston-Salem, N. C., November 29, from pneumonia, after an illness of one week, aged 55.

Wiliam J. Collins, M.D. Illinois Medical College, Chicago, 1903, of Geneva, Ind., was struck by a train and instantly killed while driving across the G. R. & I. R. R. tracks near Geneva, December 3, aged 39.

Edgar H. Whitten, M.D. Medical College of Alabama, Mobile, 1887, of Munford, Ala., fell from his buggy near that place, December 2, and was found dead in the road next morning, from cold and exposure.

Edward Osborn, M.D. College of Physicians and Surgeons in the City of New York, 1886, died at his home in East Hampton, Long Island, N. Y., December 4, from heart disease, aged 70.

Joseph Furniss, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1872, died suddenly at his home in Lancaster, Pa., December 8.

Benjamin F. Bronson, M.D. Pennsylvania, 1873, died at his home in Bridgeport, Conn., from cerebral hemorrhage, after an invalidism of three years, aged 54.

John Matheson, M.D. New York University, New York City, 1896, was robbed and murdered near his home in the Bronx, New York City, December 8, aged 38.

Francis Rowan Webb, M.D. Chicago Medical College, 1875, died at his home in Chicago, December 7, from pneumonia, after a short illness, aged 54.

Solomon B. Bowerman, M.D. Philadelphia, 1866, died at his home in Leaf River, Ill., November 27, from nephritis, after an illness of ten days, aged 77.

Joseph Berens, M.D. Pennsylvania, 1841, died at his home in Philadelphia from senile debility, after a short illness, December 6, aged 92.

George Kassen, M.D. Miami Medical College, Cincinnati, died at his home in Cincinnati, December 10, from cirrhosis of the liver.

Book Notices

Clinical Methods. A Guide to the Practical Study of Medicine. By R. Hutchison, M.D., F.R.C.P., and H. Rainy, M.A., F.R.C.P. Ninth Edition. Cloth. Pp. 634. Price, $2.50 net. Chicago: W. T. Keener & Co., 1905.

This American republication of the well-known English book only needs mention. The numerous editions through which it has already gone are sufficient evidence of its worth. Its full and apparently accurate description covers the whole field of physical and clinical diagnosis.

Atlas and Epitome of Diseases of the Skin. By Prof. Dr. Franz Mracek of Vienna. Edited with Additions, by Henry W. Stelwagon, M.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Second Edition, Revised, Enlarged and Entirely Reset. Pp. 272; 127 Illustrations, 77 in Colors. Cloth. Price, $4 net.

This work is improved in its second edition by many new illustrations and considerable revision to bring it up to date. The colored pictures are certainly very valuable. Illustrations of skin lesions without colors are of comparatively little use; the practitioner will find this work decidedly helpful.

Microtomist's Vade-Mecum. A hand-book of the Methods of Microscopic Anatomy. By A. B. Lee, Sixth Edition. Cloth. Pp. 358. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co., 1905.

This edition contains much new matter, but the text has been condensed considerably so that the size of the book is not increased appreciably. The old chapter on staining with the coal-tar colors is omitted, but its contents have been worked up into the chapter on staining, which has been rewritten entirely. This combination adds to the worth of the book. The chapters treating of the nervous system have undergone a most thorough revision so as to conform with the technic now employed for the microscopic study of these tissues. The new arrangement increases the value of the book as a guide to the laboratory worker.

Medical Diseases of Egypt. By F. M. Sandwith, M.D., F.R.C.P. Lecturer at the London School of Tropical Medicine. *Part I. Cloth. Pp. 316. London:* Henry Kimpton, 1905.

This is an interesting book, written by one who understands his subject. He not only writes as one who has mastered what has been written by others on the topics which he discusses, but adds much that is valuable from his personal experience. To us in America it is of interest as a contribution to the study of the distribution of commoner diseases and of tropical diseases in particular. The first chapter, if we are to make any criticism on it, is too brief. It is devoted to the history of medicine in Egypt from the earliest time to the present. It is extremely interesting and might easily have been extended with value to the reader.

Part first, which is all that is in our hands, is a volume of several hundred pages and covers many of the infectious diseases. Forty pages are devoted to typhoid fever, and many facts of interest are noted. Among them we note that in Egypt typhoid is most prevalent during January, February and March and not during the fall months, as is the case in temperate climates. The author also cites as evidence of a degree of immunity on the part of native Egyptians to this disease that Americans and Englishmen acquire the disease by drinking impure water, which is used constantly by the natives with apparent immunity. Several illustrations of this fact are cited. It would be interesting—and our author says nothing on this point—to know whether the fever occurs in modified form commonly in childhood among the Egyptians and thus confers immunity on the adult. Sixty pages are devoted to plague.

Ankylostomiasis is discussed fully and is a common disease in Egypt. The author points to the fact that Joachin and Schentbauer think that it was referred to and partly described in the Ebers Papyrus written 3,460 years ago. He also describes the observations of Dr. Looso on the early symptoms of this malady, which are those of ground itch, and to the experiments which show that the parasite gains access to the body through the skin, producing so-called ground itch. He also refers to the observations of Claude Smith, of this country, bearing on the same point.

This book can be heartily recommended to all who are interested in the geographical distribution of diseases and their varying manifestations under varying conditions of climate.

Ophthalmic Neuromyology. A Study of the Normal and Abnormal Actions of Ocular Muscles from the Brain Side of the Question. By G. C. Savage, M.D., with 51 Illustrations. Cloth. Pp. 221. Published by the author, Nashville, Tenn.

Any work on the oculomotor system by Dr. Savage must attract attention, as he is admitted by every ophthalmologist conversant with the literature of the day to be, perhaps, our highest authority on the subject. This, we are sure, is true not only of theories connected with eye muscle problems, but of their bearings in practice. Quite apart from his other works touching on these questions, "New Truths in Ophthalmology" and "Ophthalmic Myology" he has written many articles in which original views of the innervation of the straight muscles, their actions under normal and abnormal conditions, and their relations to one another are plainly set forth. Although it has not been possible for some observers to accept all these new doctrines, it must be said that the majority of them have successfully withstood the test of time, criticism and further investigation. Consequently, we are inclined to regard with favor the following propositions of Dr. Savage and to commend them and his book to the serious study of all earnest ophthalmologists and neurologists. These hypotheses (which after reading the work under consideration rise in our mind to the dignity of theories) form the basis and constitute the gist of the monograph:

"There are eight conjugate brain centers in the cortex, by means of which the several versions are effected, and one conjugate center by which convergence is caused. These conjugate centers act alike on orthophoric and heterophoric eyes and when there is only one eye. Each is connected with two muscles, and the work done by the center and its muscles under the guidance of volition, is normal work. The conjugate centers have no causal relationship with heterophoric conditions, nor have they any power to correct them.

"There are twelve basal centers, each connected with one muscle only. If the eyes are emmetropic-orthophoric these centers are at rest; in the presence of any form of heterophoria they are, during working hours, ever active. These centers do not produce heterophoria, but they stand ready to correct it. Under the guidance of the fusion faculty each basal center is prepared to act on its muscle, whenever there is a condition likely to cause diplopia. They may be called fusion centers."

Turning to the application of these hypotheses one finds that not only is no revolution in our well-known means for detection and treatment of muscle imbalance attempted, but these recent studies of the author rather emphasize that we, in America, generally accept as the best means of measuring and relieving the various forms of heterophoria and heterotropia. Of the many truths forcibly and clearly stated in Dr. Savage's monograph there is at least one that observing members of the profession will heartily applaud. It is that every man or woman who aspires to correct errors of refraction and of the oculomuscular balance should be "required to complete a graded course of study covering four years in a reputable medical college; for this work is as much a part of the practice of medicine, as is the treating of a case of pneumonia or the setting of a broken bone."

Miscellany

Glass Balls for Treatment of Trachoma and Pannus.—Likiernik writes from Lodz to the *Med. Klinik* for November 5 that he has obtained fine results in 310 cases of more or less chronic granular eye affections by local massage with a glass ball mounted on a long handle. The diameter of the ball is from 7 to 12 mm., and it is readily introduced under the upper or lower lid. After a few sittings the patient learns to use the ball himself. Diffuse granulations of years' standing yield rapidly to the daily use of the ball for merely thirty to sixty seconds, supplemented by the action of some antiseptic solution in which the ball is dipped before using. *Pannus*, if not too old, subsides quickly. Complications, such as infiltration of the cornea or indolent ulcers, do not contraindicate the ball treatment. Sometimes before using the ball he moistens it with a weak mercurial or 3 per cent. boric-acid solution.

Education Is the Cure.—The best weapon of the right is education. The best way to overcome quackery and public indifference is through education. Hence we believe that every high school and college should offer courses in domestic hygiene. Under that term we mean an explanation of the nature of disease and its causation, the conditions of health in the home and about town, simple nursing, the laws of cure, etc. This is, of course, along the line attempted by the school physiology work of recent legislation, but it is yet so different that the need is not met by the teaching of the elements of anatomy and physiology to children. The course should discuss all the more common diseases and the principles of treatment. It should include vaccination and serum treatment. In fact, it should be a popular course on the subject of rational medicine. Only thus can the man who has a cure-all be forestalled.—*Journal of the Kansas Medical Society.*

Sleeping Sickness in the Angola Highlands.—F. C. Wellman, in the *Journal of Tropical Medicine*, states that in the interior of Central and Southern Angola there is a distinct line of demarcation between the sleeping sickness districts and the regions free from that scourge. This line is the Coanza River. From the north bank of the Coanza to the northern boundary of the colony sleeping sickness is endemic in many situations; while from the south bank to German Southwest Africa it is not endemic, and, although one meets with occasional cases imported from the north, the disease does not spread nor attack the southern tribes. It is of great interest, he states, to note in this connection that north of the Coanza River the ordinary *Glossina palpalis* (so he has been informed), is the common tsetse-fly, while south of the Coanza the typical *G. palpalis* is not found, but its place is taken by the new subspecies, *G. palpalis wellmani*, recently described by Austen, which evidently is not a distributor of sleeping sickness. The exact relation between the geographical distribution of the disease and that of the two flies is a problem on which Wellman is now at work.

Hygiene in the Days of Good Queen Bess.—An interesting article describing the precautions taken in the reign of Queen Elizabeth to prevent the spread of plague and showing that even in the sixteenth century the value of isolation and disinfection was known and appreciated appears in the *Indian Medical Record*, Aug. 23, 1905. The regulations, etc., were published in a book, and the instructions to justices and the various rules are reproduced by the *Indian Medical Record* in full, with the quaint diction and spelling of those days. Houses of people sick with plague were required to be kept closed for a certain length of time, and if the owners of the infected houses did not observe this regulation they were imprisoned in the stocks and a sign put on the house. "And where any such houses shall be Innes or Ale houses, the signes shall be taken down for the time of restraint and some crosse or other marke set up in the place thereof, to be a token of the sicknesse." Certain persons were appointed to provide food and other supplies and to deliver them to the sick, and these persons, during their term of office, were required to carry a white rod in their hand or to wear some distinctive mark whereby other people might avoid them. A place was ordered set apart in every parish for the burial of those who died of the plague. The burial had to take place after sunset but before dark "so as the Curate be present for the observation of the rites and ceremonies prescribed by the lawe, foreseeing as much as conveniently he may, to be distant from the danger of infection of the person dead, or of the companie that shall bryng the corse to the grave." Bedding and other articles used by the sick were ordered to be "either burnt and cleane consumed with fire or else ayred." Poor people were recompensed for the destruction of their property. Any person preaching or publicly stating that precautions were vain and that a person dies at his appointed time was warned to desist, and if the warning was not heeded he was imprisoned. All justices in towns and villages were required to aid in carrying out these regulations. Taxes were imposed on the various towns and on wealthy people to defray expenses.

Decreasing Birth Rate in France.—Consul Haynes, of Rouen, in *Monthly Consular Reports*, says that there is no more worrying, persistent question in French economy than that of population. Nothing, he says, is so vexatious to the ambitious Frenchman than the fact that in Germany there are 600,000 more births annually than in France; and nothing more exasperating than the remark of von Moltke: "Every year by our birth rate we gain a battle over France." Mr. Haynes quotes statistics to show how this "nightmare of depopulation" has grown with every census in the last hundred years. In 1800 the population of Europe, in round numbers, was 98,000,000, of which 26,000,000 was French; thus France then had 26 per cent. of the population of Europe and now has only 11 per cent. At one time French was spoken all over the world; today it is the language of 45,000,000 people, while German is spoken by 100,000,000 and English by 150,000,000. Until 1850 France, in point of population, had been the first of the great European nations, afterward the second, but now the sixth, with Italy closely following and threatening to pass France and to leave her seventh. French statesmen realize the danger to their country and are asking what is to become of France, while bills intended to remedy the evil are being introduced into the legislature and societies are being formed all over the country. The National Alliance for Increasing the French Population was founded in 1896, its object being to point out the danger that threatens the country and to devise means to remedy it, and to secure appropriate legislation. The alliance states: France is on the way to become a third-class power; this tendency is due to the decreasing birth rate. It is as much a man's duty to contribute to the perpetuity of his country as to defend it in time of war. To bring up a child is a duty to the state equivalent to paying taxes. To acquit sufficiently this duty every family should have at least three children; therefore, families with more than three children should be exempt from taxation. The laws of inheritance and the present methods of dividing property should be modified, as the present laws are not conducive to large families. Lastly, infants should be protected in order to diminish the mortality of the new born. One of the causes of this comparative depopulation of France is said to be the neglect of religious practices and beliefs. Other causes are said to be military service and the inheritance laws by which all land goes to the eldest son, thus assuring him a position and competence. Paternal selfishness is given as another; many fathers who would have been able to live in ease if they had a limited number of children are compelled to labor arduously to provide for their families.

Queries and Minor Notes

ESPERANTO MANUAL.

NEW HAMPTON, N. H., Dec. 8, 1905.

To the Editor:—Will you kindly inform me through THE JOURNAL if there have been published a dictionary and a grammar of the artificial language Esperanto? If so, where are they procurable and what is the price?

A. S. DOLLOFF.

ANSWER.—A students' complete manual of Esperanto, with vocabulary, a book of 175 pages, by J. B. O'Connor, B.A., was published in 1903 by F. H. Revell & Co., Chicago. The price is $0.60. The dictionary costs $1, from the same firm. The Librarie Hachette, Paris, publishes the monthly in Esperanto called the *Internacia Scienca Rivuo*. The original grammar contains only sixteen rules, and there are no exceptions to any rule.

RECIPROCITY WITH WISCONSIN.

——, Dec. 1, 1905.

To the Editor:—1. What states have reciprocity with Wisconsin in the matter of recognizing, without examination, a license gained by examination in Wisconsin? 2. What other states, though having no established reciprocity with Wisconsin, recognize, without examination, a license earned by examination under the Wisconsin State Board?

X. Y. Z.

ANSWER.—1. Wisconsin reciprocates only with Indiana, Michigan, Ohio, Iowa, Kansas, Illinois, Nebraska, Kentucky, Maryland, Georgia, Oklahoma, South Carolina, New Mexico, North Dakota and District of Columbia, on the basis of qualifications as adopted by the American Confederation of Reciprocating Medical Examining and Licensing Boards. Requirements by the various states are so different that the question can not be answered by a general statement. Any physician desiring to register in another state should correspond directly with the secretary of the Licensing Board of that State. 2. None.

POLISH AND GERMAN CONVERSATIONAL AIDS.

Norwich, Conn., ———— —, 1905.

To the Editor:—I am often called to Polish families and am anxious to secure a small book containing Polish-English sentences, if you know of any such, or in fact any book by which one could be able to converse with them as a physician would like to. Similar simple books in German-English and French-English would be of service.

Charles F. Whitney, M.D.

Answer.—A series of small pamphlets, written by F. Thimm, is published by Dick & Fitzgerald, 18 Ann Street, New York, entitled "Self-taught German," "Self-taught French," "Self-taught Spanish" and "Self-taught Italian," containing brief conversations on various subjects, including one on the health. The pronunciation of each word is given so exactly as to aid greatly. There is no Polish pamphlet, but a very good Polish-German guide to conversation is published by B. Behr, Berlin. It has a large part devoted to "Conversation with the doctor." It is by F. Fischer, and copies are for sale by the Foreign Bookstore, Koelling & Klappenbach, 100 Randolph Street, Chicago, for 55 cents. There is no pronunciation in this manual, but any one able to pronounce German can make himself understood with the Polish sentences. "Medical German," by Deutsch, contains conversations with patients in German and English. Cloth. Price, $1.75.

Parallel reading of an article with a literal translation is a great help toward acquiring proficiency in a foreign language. Comparing the words and paragraphs, line by line, sentence by sentence, shows the structure of the foreign language, while the reader makes rapid progress without the bother of turning to the dictionary (see The Journal, July 22, 1905, page 253). Copies of a small semi-monthly for parallel readings in German and English have been received at this office. The *Translator* aims to supply short articles, stories, news items, business letters, puzzles, etc., in parallel columns of German and English text. A French and German number is also issued, called *Le Traducteur*, now in its thirteenth year. A specimen number will be forwarded free of charge on writing to the publisher of the *Translator*, La Chaux-de-Fonds, Switzerland. The subscription price is $1 a year, doubtless with something extra for foreign postage.

THE PERCENTAGE OF UREA IN URINE?

Los Angeles, Cal., Nov. 17, 1905.

To the Editor:—It is not an uncommon experience in reading articles in medical periodicals in which an analysis of the urine is given, to see it stated that the urine contained a certain percentage of urea, without giving any hint as to the amount of urine passed *per diem*, which gives no information whatever regarding this valuable excretion. Now the ultimate object of analysis of urine for urea is to determine the amount of burned up tissue excreted each twenty-four hours. We know that for that time tissue waste should be represented in the ordinary individual by an excretion of from twenty to thirty-five grams of urea, and if the quantity falls below the minimum, with other known pathological conditions, there is reason to believe that this excretion is not being properly eliminated. My attention was called again to this form of statement in an article published in The Journal, Nov. 11, 1905, page 1489, where the pathologist reports (if the quotation is accurate) that an examination of the urine "showed a specific gravity of 1007, indican slight, urea 59 per cent." I do not wish to question the accuracy of the analysis, paradoxical as it appears, but would simply call attention to the fact that this percentage, as in all other like statements, without giving the quantity of urine passed, gives the reader absolutely no information as to the excretion of urea, except that some was excreted. If the pathologist will give the amount of urine each twenty-four hours, and the per cent. of urea found, the reader can figure it out and learn the quantity in grams or grains, when the reader or auditor will have a fact of some specific importance relative to the condition of this excretion.

William H. Dudley, M.D.

Answer.—Your criticism is altogether correct, and we assume part of the blame in not seeing the fault and calling Dr. Cott's attention to the error before publishing the paper. There is altogether too much laxity in reporting urinary findings in general, and urea figures in particular, and in interpreting them.

Urea determinations, to be of value, should be performed in the total 24 hours' quantity for several days in succession; moreover the diet, especially the nitrogenous articles of food and the total liquids, should be included in the calculation, for the urea of the urine is in great part derived directly from the nitrogenous elements of the food (chiefly albumins) and in lesser part from the dissimilation of the body tissues proper. Any deviation from the normal, therefore, either in the amount of nitrogenous pabulum ingested or in the power of the gastroenteric walls to absorb it must needs become manifest in the urine—a copious amount of albumin in the food causing a large urea excretion, a small amount a correspondingly diminished urea excretion; a healthy gastric and intestinal function leading to greater urea excretion after the same amount of nitrogenous food than a diseased one. Other important elements must be included in the calculation:

1. *The amount of exercise;* a resting individual always excretes less urea than a subject indulging in much physical exercise, for the latter destroys more of his own tissues.

2. *The amount of liquid intake*; abundant water drinking at first always causes a broad stream of urea to enter the urine, for all residual circulating urea is in this way flushed out; the same applies to certain (particularly saline) diuretics.

3. *The presence or absence of fever*, a febrile subject always passing more urea than an individual with a normal temperature for in the former the catabolism of the body tissues is more active.

4. *The alkalinity, i. e., acidity of the blood*, any factor that determines acidosis, i. e., a reduction in the blood alkalinity, reduces the urinary urea, for abnormal acids (oxybutyric, diacetic, lactic, phosphoric, uric, etc.) or normal acids in excessive quantity that may enter the bloodstream immediately combine with ammonia and bear the latter with them into the urine; as, now, ammonia is the physiologic precursor of most of the urea that is manufactured in the liver, it is clear that this loss of ammonia means a corresponding decrease in the amount of urea that is formed in the liver, enters the blood-stream and thence the urine.

5. *The state of the liver function.* Any element that produces insufficiency of the hepatic cells also produces a decrease of the urinary urea; this is apparent from what has been said above, for when the liver cells are no longer adequate to form urea from ammonia salts, less urea must of necessity appear in the urine.

It will be seen, therefore, that the urea excretion is by no means an index *per se* of the state of the renal function, but that it is merely an expression of the state of the general metabolism as influenced by the divers factors enumerated above. How crude it is to interpret a small percentage of urea in a single specimen of urine to signify insufficiency of the kidneys! and how commonly is this error committed!

Granted even that all the elements named above were carefully considered, that the determination were performed with the mathematical accuracy of a metabolic experiment, even then a decreased urea excretion might mean nitrogen retention, i. e., be a good omen, especially if the patient gains in weight. At best, if this interpretation could not be accepted, it would mean that the kidneys did not permit the passage of urea but might be permeable for other urinary bodies; for little correspondence exists between the retention of the different urinary ingredients. It might finally mean that less urea than normal is formed while the kidneys were at the same time quite permeable for whatever amount of urea actually reached them in the renal blood and clamored for elimination. When one considers, finally, that, especially in chronic nephritis, the permeability of the kidneys varies from day to day, that in some renal disorders affecting chiefly one kidney, the healthier organ vicariously assumes a compensatory hyperfunction, that finally abnormal amounts of urea might be circulating while the kidneys were partially impermeable, and that as a result an approximately normal amount of urea would appear in the urine; when one considers all these points, and many more that can not be elaborated, it is clear that our correspondent's point is well taken, and that the only objection to his criticism is that it stops far short of the actual deplorable state of modern urea determinations and their clinical interpretation by practicians in general.

State Boards of Registration

COMING EXAMINATIONS.

Missouri State Board of Health, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

California State Board of Medical Examiners, San Francisco, December 20. Secretary. Charles L. Tisdale, San Francisco.

Utah State Board of Medical Examiners, Salt Lake City, January 1. Secretary, R. W. Fisher, Salt Lake City.

Arizona Board of Medical Examiners, Phoenix, January, 1-2. Secretary, Ancil Martin, Phoenix.

Washington State Medical Examining Board, Spokane, January 2. Secretary, C. W. Sharples, Seattle.

Oregon State Board of Medical Examiners (Regular), Portland, January 2. Secretary, Byron E. Miller, Portland.

North Dakota State Medical Examining Board, Grand Forks, January 2. Secretary, H. M. Wheeler, Grand Forks.

Minnesota State Board of Medical Examiners, Old Capitol Building, St. Paul, January 2-4. Secretary, C. J. Ringnell, Minneapolis.

Rhode Island State Board of Health, State House, Providence, January, 4-5. Secretary, G. T. Swarts, *Providence*.

Arkansas Medical Board, Little Rock, January 9. Secretary, J. P. Runyan, Little Rock.

New Hampshire State Board of Medical Examiners, State House, Concord, January 9-10. Secretary, H. C. Morrison, Concord.

Vermont State Board of Medical Registration, Burlington, January 9-11. Secretary, W. S. Nay, Underhill.

Wisconsin Board of Medical Examiners, Pfister Hotel, Milwaukee, January 9-11. Secretary J. V. Stevens, Jefferson.

South Dakota Board of Medical Examiners, Sioux Falls, January 10-11. Secretary, H. E. McNutt, Aberdeen.

District of Columbia Board of Medical Supervisors, Washington, January 11. Secretary, W. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, January 18-20. Secretary, J. A. Egan, Springfield.

Albany State Board of Medical Examiners, January 30-February 2. Secretary, Charles F. Wheelock, Albany.

Iowa Reports.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, reports the examinations held at Des Moines, March 22-23; Keokuk, April 20-21; Sioux City, May 1-3; Des Moines, June 5-6; Iowa City, June 8-9, and at Des Moines, June 22-23.

At the examination held at Des Moines in March the number of subjects examined in was 8; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 16, of whom 7 passed and 9 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Barnes Med. Coll., St. Louis	(1905)	81
College of P. & S., Chicago	(1892)	87
Drake University Des Moines	(1905)	82
National Med. Univ., Chicago	(1904)	80
Northwestern University Woman's Med. School	(1892)	86
Rush Med. Coll., Chicago	(1903) 88; (1905)	88
FAILED.		
Barnes Med. Coll., St. Louis	(1901) 69, (1902)	72
Rush Med. Coll., Chicago	(1900)	63
Marion Sims-Beaumont Med. Coll.	(1904)	71
University of Iowa	(1904)	74
Eclectic Med. Inst., Cincinnati	(1905)	69
College of P. and S., Chicago	(1904)	65
American Med. Coll., St. Louis	(1903)	58
Chicago Homeo. Med. Coll.	(1904)	73

At the written examination held at Keokuk April 20-21, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 54, of whom 48 passed and 6 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Barnes Med. Coll., St. Louis	(1901)	77
College of P. & S., Keokuk (1905), the grade of 75 was reached by two; 77, by two; 78, by four; 79, by three; 81, by four; 82, by three; 83, by two; 84, by seven; 85, by five, 86, by three; 87, by three; 38 and 89 by two each, and 76 and 80 by one each.		
Rush Med. Coll.	(1902) 87; (1905)	81
College of P. & S., St. Louis	(1905)	80
FAILED.		
College of P. & S., Keokuk..(1902) 70; (1904) 74; (1905) 62, 67, 74, 74..		

At the written examination held at Sioux City, May 1-3, 1905, the number of subjects examined in was 8; the total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 14, all of whom passed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Sioux City Coll. of Med..(1905) 81, 83, 83, 83, 83, 84, 84, 84, 84, 85, 86, 86, 89.		
Trinity University, Toronto, Canada	(1904)	80

At the written examination held at Des Moines, June 5-6, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 25, of whom 21 passed and 4 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Barnes Med. Coll. St. Louis	(1902) 78; (1905)	80, 83
College of P. & S., Chicago	(1905)	86
Creighton Med. Coll., Omaha	(1905)	89, 90
Drake University, Des Moines, (1904), 79. (1905) 81, 81, 81, 82, 83, 84, 85, 86, 87, 88.		
University of Michigan	(1904)	88
Western Med. Coll., London, Ont.	(1905)	82, 83
FAILED.		
University Med. Coll., Kansas City	(1897)	0
Rush Med. Coll., Chicago	(1899)	70
Illinois Med. Coll., Chicago	(1905)	74
Eclectic Med. Inst., Cincinnati	(1903)	69

At the written examination held at Iowa City, June 8-9, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 69, all of whom passed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. & S., Chicago	(1905)	85
University of Iowa (1905). The grade of 78 was reached by four; 79, by two; 80, by two; 81, by five; 82, by two; 83, by five; 84, by five; 85, by ten; 86, by six; 87, by four; 88, by eight; 89, by eight; 90, by three; 92, by two, and 91 and 95 by one each.		

At the written examination held at Des Moines, June 22-23, 1905, the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 19, of whom 17 passed and 2 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. & S., Chicago	(1905) 76, 76, 80.	81
Hahnemann Med. Coll., Chicago	(1905)	89
Jefferson Med. Coll., Philadelphia	(1904)	83
Northwestern University	(1905) 83, 85, 86, 87, 88,	90
Queen's University Kingston, Ont.	(1905)	76
University Med. Coll., Kansas City	(1905)	81
University of Michigan	(1905)	84
University of Minnesota	(1899)	83
University of Pennsylvania	(1902)	79
FAILED.		
University Med. Coll., Kansas City	(1897)	57
Ensworth Med. Coll., St. Joseph	(1905)	64

Iowa September and October Reports.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, reports the written examinations held at Des Moines, Sept. 13-14, and Oct. 18-19, 1905. At both examinations the number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75.

At the September examination the total number of candidates examined was 23, of whom 19 passed and 4 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
College of P. and S., New York	(1905)	86
Homeo. College of Missouri	(1904)	79
Howard University, Washington, D. C.	(1905)	80
Jefferson Med. Coll.	(1905)	81, 89
Marion-Sims-Beaumont Med. Coll.	(1898) 77; (1903)	83
National Med. Univ., Chicago	(1904)	83
Northwestern University	(1905)	87, 88
Queen's University, Kingston, Ont.	(1904)	78
Rush Med. Coll.	(1905) 82, 87,	90
Toronto Med. Coll.	(1905)	76
University of New York City	(1897)	79
University of Pennsylvania	(1905)	87
Western Reserve University	(1893)	83
College of P. & S., Milwaukee	(1900)	77
FAILED.		
College of P. & S., St. Louis	(1904)	66
Ensworth Med. Coll., St. Joseph, Mo.	(1905)	72
Eclectic Med. Inst., Cincinnati	(1903)	71
College of P. and S., Chicago	(1905)	71

At the October examination the total number of candidates examined was 7, of whom 5 passed and 2 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent.
PASSED.		
Rush Med. Coll.	(1904)	87
Johns Hopkins University	(1905)	78
Keokuk Med. Coll.	(1903)	84
University of Kentucky, Louisville	(1904)	88
Woman's Med. Coll., Philadelphia	(1904)	85
FAILED.		
College of P. and S., St. Louis	(1904)	56
College of P. and S., Chicago	(1905)	71

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending December 9:

Cowper, H. W., asst.-surg., relieved from duty in Philippines Division, and ordered to Washington Barracks, D. C., for temporary duty, at expiration of sick leave.

Snyder, Henry D., surgeon, left Fort Sam Houston, Tex., for duty at State Militia Camp, Austin, Texas.

Lewis, Wm. F., asst.-surgeon, on his arrival at San Francisco, will proceed to Chicago, for duty as attending surgeon and examiner of recruits.

Manly, C. J., asst.-surgeon, granted 30 days' leave of absence.

Wall, Francis M., contract surgeon, returned to Fort Oglethorpe, Ga., from target range.

Dickenson, Clarence F., contract surgeon, left Fort Logan, Colo., on leave of absence.

Slater, Ernest F., contract surgeon, left Washington Barracks, D. C., on sick leave of absence for ten days.

Leeper, John F., contract surgeon, granted leave of absence for two months in the United States, from the Philippines Division.

Pinquard, Jos., contract surgeon, ordered from the Philippines Division to the United States for annulment of contract.

Enders, Wm. J., contract surgeon, granted leave of absence for one month, ten days.

Brooks, John D., contract surgeon, granted leave of absence for 30 days.

Parkman, Wallace E., contract surgeon, arrived at Presidio of San Francisco for temporary duty.

Mount, Jas. R., contract surgeon, granted leave of absence for three months in the united States from the Philippines Division.

Newlove, George, contract surgeon, ordered to San Francisco, as witness before a general court martial, after which he will resume his leave of absence from the Philippines Division.

Wertenbaker, C. I., contract surgeon, granted leave of absence for one month.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending December 9:

Huntington, E. O., surgeon, ordered to treatment at the Naval Hospital, New York, N. Y.

Woodward, J. S., asst.-surgeon, detached from the *Brooklyn* and ordered to Colon, Panama, for special duty.

Holloway, J. H., asst.-surgeon, ordered to the Navy Yard, Norfolk, Va.

Wise, A. H., acting asst.-surgeon, detached from duty with the Naval Recruiting Party No. 1, December 16, and ordered to the Navy Yard, Washington, D. C.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending December 6:

Vaughan, George T., asst. surgeon general, granted leave of absence for two months and eight days from December 1.

Gassaway, J. M., surgeon, reassigned to duty at St. Louis, Mo., effective Aug. 2, 1905.

Meade, F. W., surgeon, on being relieved by Surgeon A. C. Smith, to proceed to Charleston, S. C., for duty.

Kalloch, P. C., surgeon, authorized to attend meeting Maine State Board of Health, at Augusta, Dec. 7, 1905, relative to smallpox.

White, J. H., surgeon, relieved from duty at Mobile, Ala., and from special temporary duty in New Orleans, La., and directed to assume charge of the service at New Orleans, La., relieving Surgeon A. C. Smith.

Smith, A. C., surgeon, relieved from duty, New Orleans, La., and directed to proceed to Pittsburg, Pa., for duty, relieving Surgeon F. W. Meade.

Corput, G. M., P. A. surgeon, relieved from duty at Pascagoula, Miss., and directed to report to Surgeon, J. H. White, New Orleans, La., for special temporary duty.

Wilson, R. L., P. A. Surgeon, relieved from duty at Vera Cruz, Mexico, and directed to report to the medical officer in command, New Orleans, La., for duty and assignment to quarters.

Wilson, R. L., P. A. surgeon, granted fifteen days' leave of absence en route from Vera Cruz, Mexico, to New Orleans, La.

Berry, T. D., P. A. surgeon, relieved from duty at Biloxi, Miss., and directed to proceed to New Orleans, La., reporting to Surgeon J. H. White for special temporary duty.

Earle, B. H., P. A. surgeon, reassigned to duty at Columbia River Quarantine Station, Astoria, Ore.

McKeon, F. K., asst.-surgeon, granted leave of absence for ten days from December 22.

Duke, B. F., acting asst.-surgeon, granted leave of absence for twenty-five days from November 29.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for five days from December 3.

Stearns, W. L., pharmacist, granted leave of absence for twenty-one days from December 9.

Maguire, E. S., pharmacist, granted leave of absence for thirty days from December 2.

Van Ness, George I., Jr., pharmacist, granted eleven days' leave of absence from December 4.

RESIGNATION.

Vaughan, George T., asst. surgeon-general, resigned, to take effect Feb. 9, 1906.

Medical Organization

North Carolina.

State Medical Society.—We have received a reprint of the presidential address by Dr. D. T. Tayloe before the last meeting of the Medical Society of the State of North Carolina. The principal topic discussed in the address is the value of hospitals, and President Tayloe's plea for more hospitals of the right kind will be indorsed by the profession generally. We are particularly interested, however, to note the progress of the work of organization in North Carolina, as indicated in the address, from which we quote:

"I can not refrain from congratulating the society on the success the new plan of reorganization has achieved, sufficient beyond all doubt to satisfy the most skeptical. In 1903 the state society had nearly 500 names on the roll, but only 283 were in good standing (on account of dues). In June, 1903, we reorganized, and at that time had less than ten county organizations in the state. In May, 1904, we met and had double the attendance we ever had at any state society meeting, and there have been sent out transactions for 1904 to 1,065 members whose dues are paid up for that year. This speaks for itself. I wish to add, however, that this fine showing is to a large extent due to the efforts of our efficient secretary, Dr. J. Howell Way, who has spent much time and energy in furthering the progress of this great work, there being few men who could have accomplished such results.

"I wish to impress on the different county organizations the importance of having an efficient, painstaking and business-like secretary, as much of the work devolves on him, and much of the success of the society is through his efforts.

"The society is also to be congratulated on having such efficient members in the Senate and House of Representatives as successfully to defeat the progress and invasion in our state of quacks, osteopaths and other designing fakes. To this same body is due also our thanks and the sincere thanks of the entire state in establishing a state laboratory of hygiene, which was much needed and which is a public beneficence."

Society Proceedings

COMING MEETINGS.

American Dermatological Association, New York, Dec. 28-30.

Western Surgical and Gynecological Association, Kansas City, Mo., Dec. 27-28.

State Board of Health of Missouri, Kansas City, December 19-21. Secretary, J. A. B. Adcock, Warrensburg.

Board of Medical Examiners State of California, San Francisco, December 20. Secretary, Charles L. Tisdale, San Francisco.

THE AMERICAN SOCIETY OF TROPICAL MEDICINE.

Meeting held Nov. 17, 1905.

Dr. Roland G. Curtin in the Chair.

Study of Tropical Medicine.

Dr. F. C. Wellman of Benguella, Angola, West Indies, contributed this paper, which was read by Dr. Joseph McFarland, president of the society. The author referred to the comparatively recent growth of the remarkable and general interest in the problems of tropical pathology. When Sir Patrick Manson published his study of *Filaria sanguinis hominis* in 1883 but little scientific knowledge of tropical ailments had been collected. Dr. Wellman thought no one could claim to be *au courant* with the science of general medicine without an appreciative acquaintance with the leading facts of tropical pathology. The following statements were made by the author: 1. The successful settlement of the tropics is of very great importance to the world. 2. Such settlement depends in no small measure on the solution of various hygienic and epidemiologic problems there obtaining. 3. In the absence of this knowledge an enormous extra expenditure of lives and money is certain to ensue. 4. The problems in question can best be studied and met by trained observers, scientific medical men living in the tropics. Methods of study were discussed by reference to some of the best work done in the past, for instance, that on the subject of animal parasites by Cobbold, Leuckart, Blanchard, Stiles and Braun, Laveran, Manson, Ross and others. With reference to the personal equation, Wellman quoted Sir Patrick Manson in that "the student of medicine must be a naturalist before he can hope to become a scientific epidemiologist or pathologist, or a capable practitioner." Reference was made to the very incomplete state of knowledge of the geographical distribution of disease. The epiphytic skin diseases of the tropics, the behavior of the ordinary bacteria in hot climates, and the peculiar form which some cosmopolitan diseases assumed in warm countries offered fruitful fields for investigation. Another subject of great moment is that of the intermediate hosts which subserved various parasites. For example, the life history and seasonal prevalence of comparatively few mosquitoes and other blood-sucking diptera had been observed. Of 13 species of mosquitoes collected by himself in a small district in West Africa 7 were new to science. Of 11 different biting-mouthed flies only one had been previously described, and the district was shown to rejoice in several new blood-sucking ticks. In conclusion suggestions were made of special work worthy of attention in the following connection: The completion of the investigation of the so-called Leishman-Donovan bodies; explanation of the puzzling dyscrasia in certain obscure fevers; observation of the new Maxwell-MacLean disease; critical examination of the suggested relation between ainhum and leprosy; further confirmation of the work done by Ross and Milne and the Liverpool School on "tick fever," and by Christy and Feldman on the intermediate host of *Filaria perstans*—a study of the neglected *Sarcorporidia* and gregarines of the tropics, to say nothing of the special hygienic, surgical and ophthalmologic questions which specialists in hot climates have raised. All these, he thought, indicate that the scope of tropical medicine is practically unlimited and that the work is still in its commencement.

Uncinariasis.

DR. CLAUDE A. SMITH, Atlanta, Ga., gave the results of his observations and experiments in connection with the disease, and especially of his investigation of infection through the skin. His patients had given a history of "ground itch," although many who did not have the disease also gave a history of "ground itch." Investigation showed that those patients who had had "ground itch" and did not have the parasites in the intestines, had the eruption a great many years before. It was, therefore, supposed that the parasites had died out in the intestines in the meantime. A study of the life history of the parasite showed that in an attack of true ground itch within a period of about eight years, the parasite was always present in the intestines. Ground itch is very common throughout the South, where it is also known as "dew poison," "toe itch." These terms, however, might be misleading, as their significance differs in different localities. True ground itch, he said, appears almost invariably after the person has been walking barefoot in the mud, especially if the ground had been wet for several days. The itching at times becomes excruciating. Macules at the points of irritation rapidly change to vesicles, which remain discreet or confluent and usually rupture. The duration of the attack varies from two to several weeks, dependent on treatment and the spread of the infection by scratching.

Dr. Smith's investigations of the source of infection show that the water could not be the cause in most of the cases, nor lack of cleanliness. Further investigation shows that the disease is of the country and not of the city. In a study of the parasite itself he found that to hatch the eggs of uncinaria the best plan is to use a Petri dish with a snugly fitting top. The process of hatching and the development and habits of the larvæ were minutely described. Little motility is displayed by the organisms while in the Petri dish, but if placed on a slide they move rapidly for a few minutes to half an hour, when they lie perfectly still for a corresponding length of time with their bodies perfectly straight, after which they again resume their lively motions. The life of the larvæ may be maintained in the Petri dish for three to four months. The diagnosis of the disease can only be made by the finding of the eggs of the parasite in the stools. The treatment is simple and effective, and consisted in the administration of thymol and purgation. Thymol, however, should never be given without a preliminary examination of the stools with the microscope. A purgative is given at night, usually of salts, followed in the morning by 30 grains of thymol. Two more doses are given at intervals of two hours, followed by another large purgative. A second treatment in the course of a week practically clears up the intestines. If indicated, the treatment is to be repeated. The indifference of the patient to infection is a marked feature. In the treatment of a case there should be close observation on the part of the physician because of the possible bad results of thymol.

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Nov. 29, 1905.

The President, DR. CHARLES S. BACON, in the Chair.

Etiology, Diagnosis and Treatment of Perinephritic Abscess.

DR. RAMON GUITERAS, New York City, reported 15 cases, and emphasized the following conclusions: 1. Many more cases of perinephritic abscesses are due to suppurative renal disease than is generally supposed. 2. Traumatism, exposure and similar influences to which perinephritic abscess is attributed are not so important as many observers have claimed; they are given as causes when they are simply coincidences, or the active cause of rupture of already existing abscesses of the kidney or neighboring structures. 3. It is important, though difficult, to determine the source and course of the pus; therefore, during the operation the surgeon should try to determine whether the kidney is the source, and, if not, what tissue is the source. It is quite important to discover the route taken by the pus, as it indicates where counter-incisions should be made, and the further treatment of the complications of the case. 4. The elements of success in operations for perinephritic abscess may be summed up as follows: (a) Early operation, incision and evacuation before the pus has had time to burrow extensively; (b) thorough exploration without timidity, opening the kidney and exploring the ureter if need be; (c) thorough drainage down the deepest part of the sac by means of large rubber drains of gauze, the drain being kept in place until a well-formed sinus exists down the deepest part of the cavity; (d) secondary nephrostomy or nephrectomy, if indicated at the time of the operation, later. 5. Nephrectomies are exceedingly dangerous in these cases, and it is better to perform nephrotomy or to content one's self with the simple opening of the abscess cavity even though a sinus results.

Sanatorium Treatment of Tuberculosis.

DR. G. W. HOLDEN, Denver, said that the first aim of any institution should be to restore to a life of usefulness those who are afflicted with this disease. A most important object is the education of those reached directly and indirectly by the work of such an institution. Holden reported on the cases treated at the Agnes Memorial Sanatorium during one year. Two hundred and twenty-four patients were admitted, 107 discharged, 8 dismissed for non-observance of rules, and 13 remained less than one month. Of 102 cases, whose average stay was from six to eight months, 13 were discharged apparently cured, 28 arrested, 43 improved, 16 unimproved, with progressive disease, and 2 died. The cases fell into three classes—the incipient or favorable cases, the moderately advanced, and the far advanced. Of the incipient cases 64.70 per cent. were discharged apparently cured, 17.65 per cent. were arrested, 17.65 per cent. were improved. In none did the disease progress, and none died. Of the cases moderately advanced 4.65 per cent. were discharged apparently cured, 39.54 per cent. were arrested, 46.50 per cent. were improved; in 9.30 per cent. the disease was progressive; none died. Of the far advanced cases none was cured, 19.05 per cent. were arrested, 47.62 per cent. were improved; in 38.57 per cent. the disease was progressive, and 4.76 per cent. died. Holden says forced feeding is not essential nor desirable to obtain results. He prefers to depend on an abundance of good food served in the three regular meals, in conjunction with the careful regulation of the life of the patient. Constant attention is paid to assimilation and elimination. Of the incipient cases 17 gained 132 pounds, an average of 7¾ pounds. This is a small gain for each case, but the majority of incipient cases are not emaciated. Of the cases moderately advanced 38 gained 432 pounds, an average gain of 11 1/3 pounds. In exceptional cases exceptional gains were made. Of these cases 5 lost 16¾ pounds, an average of 3 1/3 pounds. His experience shows that when a patient is near his average weight, the gain or loss is not always an index of the pulmonary condition, and after all, the lung condition is the vital matter. Of the far advanced cases 29 gained 288 pounds, an average of 10 pounds; notwithstanding this gain their pulmonary findings placed them in this class; 13 lost 53¾ pounds, an average of 4 pounds plus. Dr. Holden gave an excellent idea of what they are doing at the Agnes Memorial Sanatorium, a work which has been made possible through the philanthropy and public spirit of Mr. Lawrence C. Phipps.

Behring's New Tuberculosis Remedy.

DR. ARNOLD C. KLEBS read this paper, which appears in this issue of THE JOURNAL.

Economic Aspect of Modern Treatment of Tuberculosis.

DR. J. W. PETTIT, Ottawa, Ill., said that it is primarily based on life in the open air. To meet this demand we must make a radical departure from the conventional plan of hospital construction. It is perfectly natural that sanatoria should at first copy the usual methods of hospital construction, hence there has arisen altogether too expensive an ideal. The great difficulties encountered in carrying out the open-air treatment are so formidable that any method which will cheapen or simplify the treatment should be carefully considered. Providing tuberculous patients with sleeping apartments in substantial buildings is not only unnecessary, but in violation of an essential principle which has for its object supplying the patient with fresh air. The simplest and least expensive method which would protect the patient from the inclemency of the weather and supply him with the largest amount of the best possible air is the one which commends itself for scientific and economic reasons. We should proceed on the principle of the greatest good to the greatest number. If we can make a given sum of money which is now expended in the care of one patient provide for several, it is our duty to do so. This can be done. This is the problem they have been trying to work out at the Ottawa tent colony, and, they believe, with some degree of success. Since the tent is practicable in a cold climate, it should be used more extensively. It fulfills the conditions most perfectly from a scientific standpoint. The difficulty of keeping patients in the open air is well known. Every temptation placed before them in the way of indoor comforts only adds to the difficulty. The only way to insure patients getting fresh air is to place them where they can get nothing else. To be consistent, patients should be kept out of doors not part of the time, but all the time. In no other way can this be done so easily and satisfactorily as in a tent. A tent is an ideal method of housing tuberculous patients in a mild climate. The cost of food is the most expensive item in the treatment of tuberculosis, and any attempt to cheapen this feature by cutting down the quantity or cheapening the quality will tend to nullify the treatment just to the extent to which this is done. The psychical element must also be considered. This makes it necessary to provide certain forms of amusement and recreation which adds somewhat to the expense.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Nov. 8, 1905.

The President, DR. JAMES M. ANDERS, in the Chair.

Morbid Physiology of Neurasthenia.

DR. WILLIAM PICKETT pointed out that the Greek root "sthen" meant strength in the sense of dynamic strength, and that asthenia was, therefore, want of endurance rather than simple weakness. In myasthenia gravis the muscles supplied by the bulb are quickly exhausted by use—asthenic bulbar paralysis Strümpell called it, from its parallelism to organic bulbar palsy. Another condition of muscular exhaustibility—asthenopia—resembles a certain organic disease—oculomotor palsy. A general exhaustibility, affecting various organs and functions, suggests by further analogy a disease of the general nervous system, which is called neurasthenia. Added to ready exhaustibility in neurasthenia is a want of recuperative power; so that in the confirmed case the patient not only tires readily, but is always tired. The symptoms of irritability in neurasthenia are apparently due to diminished control of higher centers which are fatigued, a mechanical instance of which is the increased knee jerk, explained, as in organic nervous disease, by overaction of spinal centers, partly released from the control of the motor cortex. By this reasoning, Dr. Pickett said, neurasthenia might appear as a functional brain disease. In neuropathic persons the exhaustion affects the highest centers, causing certain psychic symptoms. These, especially the obsessions (*folie du doute*, morbid fears, impulsions and imperative ideas), constitute the psychiasthenia of Janet. Neurasthenia is a simple fatigue neurosis, not to be confounded with the symptomatic states of exhaustion in phthisis, heart disease, the febrile affections, early paresis, etc. These are to neurasthenia what the "typhoid state" is to typhoid. The chemistry of fatigue does not explain neurasthenia, nor is it likely that there is actual degeneration of cortical cell bodies, as alleged by some writers.

Diagnosis of Neurasthenia.

DR. F. X. DERCUM said that in the study of a case of nervousness there should be considered: First, the three great neuroses—neurasthenia, hysteria and hypochondria; second, the various nervous states prodromal to the fully developed psychoses, such as the prodromal or developmental period of melancholia, or paranoia, of dementia præcox and the like. These states, which never present the symptom group of neurasthenia, he terms the neurasthenoid states. The symptoms they present are never truly neurasthenic, but are like or grossly resemble neurasthenia. Finally, there should be borne in mind the nervous symptoms which accompany various visceral and general diseases, organic and functional. Here again, he said, the nervous symptoms are never those of true neurasthenia; there is present merely a neurasthenia symptomatica, as in chlorosis and other blood diseases, and in diseases of the viscera. In the study of neurasthenia, in detail, the symptoms are found to be essentially those of chronic fatigue, of a fatigue which has become exaggerated and pathologic, and for this reason Dr. Dercum applies to neurasthenia the term "*fatigue neurosis*." Analysis of the symptoms of neurasthenia shows an expression of the sensory symptoms in generalized fatigue sensations, such as a general sense of tire and of weakness; second, in localized fatigue sensations, such as headache, backache and limbache. Of the motor symptoms there are found in varying degree muscular fatigue, muscular weakness and, above all, ready muscular exhaustion. In the psychic symptoms there is diminution in the capacity for sustained mental effort, ready mental exhaustion and diminution in the spontaneity of thought. In the somatic symptoms are noted especially atony of the digestive tract, atony of the circulatory apparatus and disturbances of the secretions, indicating weakness of defective innervation, and disturbance of the sexual functions, indicating weakness and irritability. These Dr. Dercum termed the essential symptoms of neurasthenia; the other symptoms that make their appearance are the secondary or adventitious symptoms.

Treatment of Neurasthenia.

DR. CHARLES K. MILLS regards neurasthenia as a true clinical entity. Genuine neurasthenia, relatively rare, occurs outside of the psychiatric pale. The main features in the treatment of neurasthenia are rest, the skillful use of diet, exercise, work, medicines and special measures, such as massage, electricity and hydrotherapy. No matter what treatment is instituted, suggestion properly used plays an important part. The sufferers from neurasthenia are often, if not always, neurotic or neuropathic, and for this reason the psychic treatment is important. With the co-operation of the family something can be done to secure relative rest for the neurasthenic. There should be nine or ten hours' sleep and one-day period of rest should be insisted on. This should not be less than fifteen minutes and need not be more than two hours. Massage he considered of more value than electricity, although both can be made to play important parts as adjuvants in the partial as well as in the complete rest treatment. A well-chosen mixed diet should be aimed at, although it is often necessary to begin with milk alone, to continue for some time with milk and eggs, the latter, preferably, to be given raw. Digestion and assimilation of food should be secured. Systematized respiratory exercises indoors, or golf playing, horseback riding, etc., can be resorted to, if feasible. In carrying out a complete rest treatment the first point to be insisted on is absolute isolation. Much depends on the judgment, tact and intelligence of the nurse. Mistakes are sometimes made by putting cases of mental disorder, supposed to be instances of neurasthenia, under the rest treatment. In a few cases even genuine neurasthenia does not do well under this treatment. In the rest treatment everything should be scheduled with the greatest care and accuracy. Seasonable vacations, as methods of bringing about rest, should be at least two in number; one comparatively long at the usual summer period and the other late in February or early in March. Neurasthenic attacks might sometimes be prevented, if the patient would take a period of short but complete rest, away from his usual environment, in March. Work is sometimes beneficial in the treatment of neurasthenia. Care should be taken, however, in its selection and manner of performance. In the treatment of insomnia, sulphonal and chloralamid are the most useful hypnotics, although it is often possible to produce sleep by massage and mild hydrotherapeutic measures. Little medicine is needed. The most valuable drugs are those which aid digestion, improve circulatory tone, and strengthen nerve centers. Chlorid of gold and sodium, arsenic, salts of zinc, strychnin or nux vomica in small doses, cactus, asafetida and caffein are useful agents.

DISCUSSION.

MAJOR CHARLES A. WOODRUFF, U. S. A., spoke of neurasthenia in the tropics, with especial reference to its existence in the Philippine Islands, where the condition has been recognized sufficiently to be termed tropical neurasthenia. European physicians do not take the same view of neurasthenia as do American physicians, and consequently they are apt to call the prevailing nervous conditions by different names. The most important symptom observed in neurasthenia in the Philippines is loss of memory, which condition, in young men, disappears on their return home. Severe indigestion, accompanied by dysentery, is another form. Even a soft boiled egg, at times, causes intense suffering. In the tropics the indigestion of neurasthenia means starving to death. It is not unusual to see men carried from the hospital to the ships, apparently to die, but by the time they reach Japan there is much improvement, and on their arrival at San Francisco there has been a gain in weight of from twenty to thirty-five pounds. Major Woodruff found that among the soldiers of blonde complexion the morbidity rate is much larger than among the brunettes, almost double. This same condition exists in families; one daughter, a blonde, being decidedly neurasthenic; the other, a brunette, being comfortable and enjoying the climate. Further investigations showed that in Scandinavia, Scotland and the southern and central part of Norway there are more blondes than anywhere else in the world, and that going toward the southern end of Italy there are but few. White men who go to India do not survive the third generation. If the white man goes too far out of his dark corner death stares him in the face. The matter is regarded as interesting in its relation to tuberculous patients, and an instance was cited of a patient cured at Saranac who went to Denver, but found himself becoming exceedingly nervous. This man was a decided blonde. A comparison of the death rates of various parts of the United States shows the lowest to be in the northwest corner—Washington, Oregon and Alaska— where there is a minimum of sunshine, proving the existence of good health conditions in spite of the lack of sunshine. The practical point made was that in seeking a change of climate blondes should not be sent south.

DR. WHARTON SINKLER thinks it as common to find cases of unrecognized neurasthenia as to find cases of organic disease diagnosed neurasthenia. He regards neurasthenia as a fatigue neurosis. The condition is more common and more obstinate in men than in women. The treatment depends not so much on the means of the patients as on the temperament. Some do well under the ordinary rest treatment; others by being driven to exert themselves when they feel a disinclination to action.

DR. JOHN K. MITCHELL said that he has seen a case of dilated stomach, one of locomotor ataxia in the early stages, but distinct, and two cases of Bright's disease, which had been diagnosed neurasthenia. A very important—and, perhaps, a neglected—part of the treatment is punctuality and accuracy. Mild neurasthenic cases may be treated successfully by the mere regulation of their lives. The cardinal symptom of indecision is helped, because there is nothing to decide; certain things are to be done at stated hours. This treatment might be made to include a man's business or a woman's household duties. In fact, the whole object of the treatment of neurasthenia, the conservation of energy, can only be secured by rest and punctuality.

DR. CHARLES W. BURR cited a hospital case which had been diagnosed as one of neurasthenia. The patient died suddenly and the autopsy showed the case to be one of fatty heart. True neurasthenia is not a common disease. Too often hypochondriasis is included as a part of neurasthenia. Rest treatment for such patients is not successful, and this is responsible for the belief held by many that the rest cure possesses little merit.

DR. WILLIAM G. SPILLER emphasized the fact of the frequency of association of hysteria and neurasthenia, not, however, in the sense of being different manifestations of the same neurosis, nor that the association is the same as that of mania with melancholia; but, he believed that later on there will be found a closer association than is now thought to exist.

DR. A. C. BUCKLEY said that in a number of cases of post-traumatic neurasthenia, there occurred, after the shock passed off, a temporary period of almost normal health before the appearance of the true neurasthenic symptoms. This, he thought, was contrary to the natural expectation, that the symptoms would follow more or less closely on the apparent injury.

DR. FRANK WOODBURY referred to a class of cases suffering from the injurious effects of water gas which are apt to be diagnosed neurasthenia. He cited some instances and thought that in the consideration of neurasthenia such cases might be included under a group of toxic neurasthenias. In treatment the first step is to adjust the patient to his environment.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Ointments in Nasal Affections.

In considering the therapeutic value of ointments in the treatment of diseases of the nose, L. S. Somers, in *Merck's Archives*, states that clinical experience has demonstrated that better results are obtained from this form of medication than from any other. Ointments protect the membranes and upper lip from irritating discharges and, therefore, are soothing. The application of ointments does away with the danger of douches or washes which are so frequently used by patients troubled with catarrhal conditions of the nasal passages, with the accompanying danger of infection of the middle ear by way of the Eustachian tube. Unlike the use of ointments in diseases of the skin, the consistency is of great importance for nasal application. Wool fat (lanum or lanolin) may be used as a base after being rendered sterile.

When these applications are made by the physician the ointment should be applied on a cotton tuft wound tightly on an applicator. The author recommends placing the ointments in a collapsible tube for the patient's use at home. With the head thrown backward, he can insert the tube into one nostril and then into the other. The nostrils should be thoroughly cleansed previously to introducing the ointment. Of the various diseases of the nasal passages in which ointments may be employed either as curative factors or in allaying symptoms, acute rhinitis, according to the author, is probably the most frequent, and this is often relieved in both its early and later stages. During the early part of the disease, when acute coryza is present, the active principle of suprarenal gland is of great service, applied in the following combination:

℞.	Adrenalin	gr. 1/2		03
	Olei geranii	m. i		06
	Lanolini	℥i	30	

M. Sig.: Apply locally to the nares.

The author states that while the strength of adrenalin in the foregoing formula is about the same as the 1 to 1,000 normal saline solution, its action is greatly prolonged and the results are much more satisfactory. It should be used by the patient from two to four times daily, depending on the severity of the coryza. This combination is also of service in such vasomotor conditions as are accompanied by excessive secretion, and in acute exacerbations of chronic rhinitis which is unaccompanied by organic changes.

During the later stages, when the secretion consists of tenacious mucus or becomes mucopurulent in character, one of the following combinations is recommended:

℞.	Olei eucalypti	m. xl	2	65
	Acidi borici	ʒii	8	
	Liq. petrolati			
	vel:			
	Lanolini q. s. ad	℥i	30	

M. Ft. unguentum. Sig.: Apply a small portion in the nostrils several times a day and inhale forcibly.

This will tend to render the secretions less tenacious and at the same time it will aid in restoring their normal character.

The following may be used under similar circumstances:

℞.	Mercuric sulphatis flavi	gr. ii		12
	Lanolini	℥i	30	

M. Sig.: Apply a small portion to the nostrils several times a day.

When the secretion is profuse the following is recommended:

℞.	Acidi gallici	ʒi	4	
	Unguenti belladonnæ	ʒii	8	
	Lanolini	ʒvi	24	
	Liq. petrolati q. s. ad	℥i	30	

M. Sig.: Apply a small amount locally to the nares several times a day.

In vasomotor conditions of the turbinal tissues various remedies prescribed in the form of ointments are especially beneficial in checking excessive secretion and in relieving the obstructions to the nasal respiration. When the tissues are edematous relief may often be obtained by the application of the following ointment two or three times daily:

℞.	Quininæ sulphatis	gr. iiss-viii		15-.50
	Lanolini	℥ss	15	

M. Ft. unguentum. Sig.: Apply locally two or three times a day. Or:

℞.	Ichthyoli	ʒss-ʒi	2-4	
	Lanolini	℥ss	15	

M. Ft. unguentum. Sig. To be applied locally two or three times a week by the physician.

The foregoing is to be used when the irritability to the mucous membrane is not great.

In hyperesthetic rhinitis, not of the true hay fever type, but accompanied by attacks of sneezing and irritability of the nares, a combination similar to the following is recommended as a protective to the mucous membranes and for its soothing qualities:

℞.	Ung. hamamelidis	℥ss	15	

Sig.: Apply locally to the nasal mucous membrane. Or:

℞.	Ung. zinci oxidi	ʒiii	12	
	Lanolini	ʒv	20	

M. Ft. unguentum. Sig.: Apply locally two or three times daily.

In some cases belladonna may seem preferable to the foregoing, combined as follows:

℞.	Ung. belladonnæ			
	Lanolini, āā	ʒii	8	

M. Ft. unguentum. Sig.: Apply locally once or twice daily.

In cases in which the hyperesthesia is of comparatively short duration and it is not desired to continue the treatment for any great length of time the following combination is recommended by the author as one which will cause the symptoms to subside rapidly and the reflex sneezing to stop:

℞.	Cocainæ hydrochlor	gr. v		20
	Olei eucalyptus	m. x		65
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: To be applied locally by the physician as the individual case requires. [Cocain, however, should be used cautiously.—Ed.]

The habit of cocain must be avoided in the use of the foregoing combination as well as in the following combination, which may be used in cases of true autumnal catarrh or hay fever.

℞.	Cocainæ hydrochloratis	gr. x		65
	Menthol (crystals)	gr. xx	1	30
	Olei amygdalæ exp	ʒii	8	
	Ung. zinci oxidi q. s. ad	℥i	30	

M. Ft. unguentum. Sig.: Apply locally by means of a cotton applicator to the nasal mucous membranes, two or three times a day, depending on the severity of the attack.

In cases in which the obstruction is the most prominent symptom of hay fever the following is recommended:

℞.	Menthol (crystals)	gr. iiss-viii		15-.50
	Lanolini	℥ss	15	

M. Ft. unguentum. Sig.: To be applied locally, as often as necessary, by the patient.

As stated by the author, however, when there is a marked increase in the amount of fibrous tissue, the employment of ointments is of no value, as would be the case with any medicinal application which produces no destruction of tissue.

In some cases in which there is slight thickening or induration of tissue the following combinations are recommended:

℞.	Ichthyoli	ʒi	4	
	Olei bergamot	m. v		30
	Ung. zinci oxidi	ʒvii	28	

M. Ft. unguentum. Sig.: Apply locally. Or:

℞.	Bismuthi subgal	gr. xx-xl	1	30-2.60
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: Apply locally.

The foregoing should be applied to the nares two or three times a week by the physician, and the patient should be instructed to use either the adrenalin or menthol ointments several times a day during the intervals.

In rhinitis sicca the following is recommended:

℞.	Olei eucalyp	ʒss-i	2-4	
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: Apply locally at bedtime.

In those cases further advanced and regarded as true atrophic rhinitis, accompanied by excessive dryness, crust formation and offensive odor, the membranes must be thoroughly cleansed and the crusts removed. After this the following ointments are of value:

℞.	Hydrargyri oxidi flavi	gr. v-x		30-65
	Olei bergamot	m. v		30
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: To be applied locally by the patient. Or:

℞.	Ichthyoli	ʒss-i	2-4	
	Menthol (crystals)	gr. v-viii		30-.50
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: A small amount to be inserted into the nostrils at bedtime.

The following are of value applied by means of tampons:

℞.	Iodoformi	gr. xx-xxx	1.30-2	
	Olei eucalyptus	m. v		30
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: Apply to the nares on tampons.

The foregoing is especially valuable when the fetor is marked.

Ointments are the most essential means of treatment in any case in which erosions of the mucous membrane or perforations of the septum are present, whether specific or otherwise. They not only prevent crust formation, but stimulate the parts to healing. For this purpose mercury is recommended as follows:

℞.	Ung. hydrarg. nitratis	ʒi	4	
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: Apply locally in specific cases. Or:

℞.	Ung. hydrarg. nitratis	gr. xx	1	30
	Ung. hydrarg. oxidi rubri	ʒss	2	
	Lanolini	℥i	30	

M. Ft. unguentum. Sig.: Apply locally to the edges of the perforation.

Medicolegal

Makes Recording of Certificate More Important.

Chapter 136 of the Laws of South Dakota of 1905 amends Section 23 of the medical practice act of that state by incorporating the words here inclosed in quotation marks, making the second paragraph of the section read: Any person who shall practice medicine or surgery or obstetrics in any of their branches in this state without having obtained a license as in this act provided, "and had such license recorded in the office of the register of deeds of the county in which such person resides and practices, as hereinabove provided," shall be guilty of a misdemeanor, etc.

To Secure Pure Foods.

Chapter 114 of the Laws of South Dakota of 1905 is entitled: "An act to provide for a state food and dairy department; to prevent the adulteration, misbranding and imitation of foods, beverages, candies and condiments, and regulating the manufacture and sale of dairy products." One of its many provisions is that it shall be unlawful for any person to manufacture, sell, offer or expose for sale any article of food to which has been added formaldehyd, borax, boracic acid, benzoic acid, sulphites or sulphurous acid, salicylic acid, abrastol, beta-naphthol, fluorin compounds, saccharine or coal tar dyes. In Chapter 135 is an act relating to inspection of meats, slaughter houses and markets.

Females to Accompany Female Insane Patients.

Chapter 74 of the Laws of New Jersey of 1905 provides that whenever any female insane patient is to be removed from any county almshouse to a state hospital or asylum for the insane, or from one state hospital or asylum for the insane to another state hospital or asylum for the insane, or from the home of such insane patient to an almshouse, hospital or asylum, or when returned from such institution to her home, it shall be the duty of the court under whose order such patient is committed, or of the freeholders or commissioners of the county, or the overseer of the poor of the district to which such patient is chargeable, if not committed by the court, to provide a female attendant for every female patient in transit, at the expense of the proper county or poor district.

Adulteration with Methyl or Wood Alcohol Prohibited.

Chapter 100 of the Laws of New York of 1905 amends Section 165 of the agricultural law by adding the provision that in case of food an article shall be deemed to be adulterated if it contains methyl or wood alcohol, in any of its forms, or any methylated preparation made from it. Chapter 122 amends the public health law by adding to Subdivision A of Section 41, relative to adulterations, the provision that, in case of drugs, an article shall be deemed to be adulterated if it contains methyl or wood alcohol, in any of its forms, or any methylated preparation made from it. It also adds a similar provision with regard to food, under Subdivision B, while Subdivision C, relative to spirituous, fermented and malt liquors, and Section 46, relative to wines, are made to declare against their adulteration with methyl or wood alcohol in any of its forms.

Disclosure of Professional Information.

Chapter 331 of the Laws of New York of 1905 amends Section 834 of the code of civil procedure to read as follows: A person duly authorized to practice physic or surgery, or a professional or registered nurse, shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity; unless, where the patient is a child under the age of 16, the information so acquired indicates that the patient has been the victim or subject of a crime, in which case the physician or nurses may be required to testify fully in relation thereto on any examination, trial or other proceeding in which the commission of such crime is a subject of inquiry. Nothing in this act contained shall affect any actions or proceedings now pending. This act shall take effect Sept. 1, 1905.

Commitment Authorized of Users of Narcotics.

Chapter 3 of the Public Laws of Maine of 1905 provides that a person alleged to be suffering from the effects of the use of an opiate, cocain, chloral hydrate, or other narcotic may be committed to the care of any general hospital receiving aid from the state, or any legally qualified physician of not less than five years' actual practice, for treatment; and the medical authorities of said hospital or said physician to whom said patient is committed shall have the power and authority to restrain said patient so committed in such manner as may be necessary for his protection for a period not exceeding ninety days. But before any restraint shall be imposed under the authority of this act, a voluntary agreement shall be made in writing by the person suffering from the effects of any drug above mentioned, to the imposition of restraint on his actions, if necessary, and such agreement must be witnessed by the husband, wife, or parent of the person aforesaid, or one of the muncipal officers of the city or town in which the person, suffering as described in this act, is a resident, and approved, after reasonable notice, by a justice of the Supreme Judicial Court or a judge of the Superior Court or Probate Court in the county where the patient resides. Any justice of the Supreme Judicial Court, or a judge of the Superior Court or Probate Court in the county where the patient resides, may, at his discretion, require the president or secretary of the state board of health, or one of the county examiners of insane criminals, to investigate as to the progress of any such case; and, on his certificate that further restraint is unnecessary, may annul the agreement, and the person restrained shall be immediately released on the order of said justice.

Provides for Destroying Mosquito-Breeding Areas.

Chapter 80 of the Laws of New Jersey of 1905 is: "An act to provide a method for locating and destroying mosquito-breeding areas, authorizing appropriations for said purposes and providing state aid for freeing salt-marsh areas from mosquitoes." It provides that it shall be lawful for the mayor, or executive officer, or the board of health of any city, borough, incorporated town, village, or the governing body or board of health of any township or county to make request in writing to the director of the agricultural experiment station in the state, or to the person appointed by said director for the purposes of this act, to investigate, or cause to be investigated, the source of breeding places of mosquitoes which may or do infest said city, etc.; and it shall be the duty of such director, or the person appointed by him, as soon as may be, to investigate, or cause to be investigated, the source or breeding places of such mosquitoes, and he shall as soon thereafter as possible report to the officer or body making such application the results of the investigation made, and also the measures that should be adopted to destroy such breeding places, or render them free from future mosquito breeding. Whenever an investigation shows that the mosquitoes infesting the community and causing the nuisance complained of are those breeding on the salt-marsh areas within the jurisdiction of any city, etc., and a copy of the report shall be sent to the board or boards of health of the municipality or municipalities in which the breeding places are situated, attaching statements specifying the localities affected by the marsh-breeding areas, the extent of the dangerous area, the character of the work necessary to prevent further mosquito breeding and the probable cost of the work required in each municipality, the governing body of the municipality may, on the written request of its board of health, appropriate 75 per cent. of the sum required to complete the work, and the director of the agricultural station may, out of money appropriated by the state for this purpose, together with the appropriation of such municipality, complete the work; provided, that not more than $500 from said state aid appropriation shall be expended in any one municipality in any one year.

More About Alcoholics Labeled as Medicines.

Internal Revenue Circular No. 676, issued by Commissioner Yerkes under date of Nov. 24, 1905, states that since the ruling of Sept. 12, 1905, in Circular No. 673, reported on page 1025 of The Journal of Sept. 30, 1905, was made, manufacturers of preparations referred to in that ruling and wholesale druggists and retail druggists handling them have demonstrated that large losses would occur to them if the ruling was made effective on Dec. 1, 1905. They said that in good faith and under rules heretofore controlling they had purchased these compounds in large quantities, had them in stock, and that it would be impossible to dispose of them by the date originally stated. After careful consideration of this phase of the case, and to protect those who in good faith had engaged in the sale of these preparations, this office has determined to make the order effective as against manufacturers on Jan. 1, 1906, instead of Dec. 1, 1905. With regard to all handling these preparations as retail dealers, both druggists and other merchants, the order will be made effective April 1, 1906, the beginning of the last quarter of the current fiscal year.

It is further stated that it was the purpose to make public announcement before Dec. 1, 1905, of the various preparations found by analysis to be within the terms of the ruling of September 12. By reason of the care given in making analyses of these compounds the office has been unable to complete the examination of all such compounds now on the market. However, it has made analyses of the following preparations and finds that they are within the terms of the ruling of Sept. 12, 1905: Atwood's La Grippe Specific, Cuban Gingeric, De Witt's Stomach Bitters, Dr. Bouvier's Buchu Gin, Dr. Fowler's Meat and Malt, Duffy's Malt Whisky, Gilbert's Rejuvenating

Iron and Herb Juice, Hostetter's Stomach Bitters, Kudros, Peruna, Rockandy Cough Cure. This office will continue to make analyses of other preparations similar to those already examined, and will announce from time to time the conclusions reached. Until public notice is given as to other preparations than those above named, manufacturers of same, druggists, and others handling these preparations will not be held liable for special tax for other articles than those set forth herein, provided that the compounds are sold in good faith as *medicines.*

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

December 2.

1 *Results of the Open-air Treatment of Surgical Tuberculosis. W. H. Halsted, Baltimore, Md.
2 **Action of the Roentgen Rays on the Blood; An Experimental Study.* R. S. Morris, Ann Arbor, Mich.
3 *Speech Training as a Factor in the Development of the Feeble Minded. G. H. Makuen, Philadelphia.
4 Value of Chloretone and Sulphonal in the Treatment of Insomnia. J. S. Christison, Chicago.
5 Approximate Measures of the United States Pharmacopeia. M. I. Wilbert, Philadelphia.
6 *Aseptic Management of the Umbilical Cord. J. T. Schell, Philadelphia.

1. Open-air Treatment of Surgical Tuberculosis.—Halsted refers briefly to the open-air treatment of surgical tuberculosis on the "bridge" of the Johns Hopkins Hospital, and describes in detail the splendid results obtained by the open-air treatment of private patients. He says that most patients with surgical tuberculosis will recover without operation if they are given a fair opportunity in the open air. Halsted questions the necessity and wisdom of overfeeding and the value of tuberculin as a means of deciding when to discontinue fixation and to permit the use of the affected joint. He is of the opinion that a definite reaction probably could be obtained in all so-called cured cases. He says that it is the surgeon's duty not only to advise out-of-doors living, but to see that his instructions are carried out as it was intended they should be.

2. Action of Roentgen Ray on Blood.—Morris has undertaken the study of the more immediate effect on the blood of moderately long, continuous exposures to the Roentgen ray. He epitomizes his results in the following conclusions:

> 1. The Roentgen rays cause a marked diminution in the absolute number of leucocytes in the peripheral circulation.
> 2. Preceding the leukopenia, there may be a moderate rise in the number of leucocytes from 8 to 12 hours after the exposure, the increase being due largely to the greater number of polynuclear cells in the circulation (observed only in the rabbit); the same condition may be found just at the end of the exposure, subsiding rapidly.
> 3. The lymphocytes are especially susceptible to the action of the rays; they are affected first and most intensely.
> 4. Alterations in the histologic characters of the lymphocytes and polynuclear amphophiles may be found in the rabbit, similar to those described in the lymphoid tissue and bone marrow.
> 5. Hard tubes produce the most marked changes in the leucocytes.
> 6. No noteworthy numeric or histologic alteration takes place in the red blood cells within the first few hours following exposure; the percentage of hemoglobin is not essentially affected within the same time.

3. Speech Training as a Factor in the Development of the Feeble-minded.—Makuen considers defective speech a physical and mental sign of feeble-mindedness, and that it may be the cause as well as the result of feeble-mindedness. He refers to the case of a boy who was thought to be feeble minded, and who is now a successful business man as the result of the removal of some mechanical obstructions to the normal development of the organs of speech and the correction by training of the faulty mental and speech habit. Other cases are cited to illustrate the difficulties of diagnosis and prognosis.

6. Aseptic Management of Umbilical Cord.—Schell describes a method used by him for some time which entirely does away with the old infected and rotting stump. As soon as the child is born the umbilical cord is clamped with a hemostat about three inches from its abdominal attachment; another hemostat is then placed a short distance from the first one toward the placental end of the cord, and the cord is then cut between. The child is now wrapped in its aseptic receiving blanket and placed to one side, and the whole attention is given to completing the delivery of the mother, including possible repairs of perineum, etc. After the third stage of labor is completed the vessels in the cord, as a rule, have ceased pulsating. The cord and abdominal wall immediately surrounding it are carefully washed in a 1 to 4,000 mercuric chlorid solution. The hemostat is then grasped in the left hand, and a pair of scissors in the right hand follows the skin amniotic junction until this is severed completely in its entire circumference. Care must be taken not to cut too deeply, as the vessels of the cord are usually very close to the amniotic covering. Schell says that even if they are cut, no serious hemorrhage will result, as the circulation, as a rule, by this time has practically ceased through these vessels. As soon as the vessels have been exposed, the amniotic covering and the Wharton's jelly are stripped away in a direction from the abdominal walls and a ligature consisting of a piece of very fine (No. 0) sterile catgut is then thrown around the vessels, and the cord is severed close to the ligature. The stump is washed in mercuric chlorid solution, dried with a piece of sterile gauze, and dusted with any good antiseptic dusting powder. The baby should not be put in the tub for about a week, but should be given a lap bath; the stump must be washed frequently in a boric acid solution, and a small amount of dusting powder used with the usual sterile pad and the abdominal bandage.

Medical Record, New York.

December 2.

7 *System of American Hospital Economy. A. G. Gerster, New York.
8 *Essential and Paroxysmal Tachycardia. J. J. Morrissey, New York.
9 *Subcatabolic Mechanism Involved in the Etiology of Common Colds. H. Wakefield, New York.
10 *Test Feces; Their Value in the Recognition in Intestinal Disturbances Taking Their Origin in Other Parts of the Digestive Tract. H. Stern, New York.
11 *Medical Education. E. Castelli, New York.
12 *Valvular Closing of the Gall Bladder After Operation. H. E. Rockey, Portland, Oregon.

7. American Hospital Economy.—In analyzing the conditions which underly the extravagance and waste in hospital management in this country, Gerster emphasizes the necessity for more active participation in the executive control by the members of the hospital staff. The plans or organization of the great hospitals of Hamburg, Berlin, Vienna and Budapest are described in detail, the essential features being that the position of the lay superintendent of American hospitals is occupied by one or more salaried medical directors, the attending staff is very limited, so that the service is a permanent one with salaried visiting physicians and surgeons, and the house staff also is composed of paid assistants, whose positions are permanent. In this way all those concerned are able to give the necessary time to details of economical management, and also acquire the experience necessary to carry them out with effect. The present plan of conducting hospitals here resembles that in use in medieval Europe, and the author predicts that sooner or later a system similar to that now employed in Europe must be adopted.

8. Tachycardia.—Morrissey classifies tachycardia under two main heads—essential and paroxysmal, and two subheads—true and false. Permanent disease of the heart muscle best illustrates true tachycardia. The false variety, he says, may be produced by causes far removed from the heart. There are certain definite peculiarities which distinguish true tachycardia from the evanescent "heart hurry" so frequently produced by the most trivial causes. 1, The attack is sudden in its onset, reaching its height almost immediately; 2, the patient may or may not be entirely unconscious of the great degree of palpitation; 3, there is generally a definite period covered by the attack; 4, the reversion to the normal condition is as sudden as the onset, the vestiges of the storm through which the patient has passed rapidly disappearing. Morrissey concludes by saying that the treatment of tachycardia is that of the condition from which it arises or with which it is associated, but it must be remembered: 1, That essential tachycardia is not accompanied with indigestion; 2, that paroxysmal tachycardia and the forms of tachycardia, accompanied by signs, no matter how slight, of Basedow's disease, are very frequently associated with dyspepsia; 3, that extreme cardiac arrhythmia frequently occurs without any indication of stomach disease, and, 4, that tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state, which requires to be approached for treatment from many sides.

9. **Subcatabolic Metabolism of Colds.**—According to Wakefield, colds represent the results of disorders of metabolism due to local circulatory disturbances following the unusual exposure to cold of some part of the body. The degree of temperature is subordinate to the state of inequality produced, for a cold may be due to the extrinsic effect of either cold or heat, if sufficiently pronounced or abrupt to insure a localized action of definite heterogeneity from the balance of the organism. Wakefield has discovered that protoplasm as such is subject to the general laws that heat causes expansion and cold contraction, or, in other words, cold heightens, and heat lowers the specific gravity of protoplasm in general, not excepting that of the parenchyma. In analyzing the mode of origin of a common cold Wakefield says that primarily a condition of disequilibrium is produced. An individual, during a period of normal heat balance, gets wet, cold feet; a state of contraction of the tissues of the lower extremities is attained, the blood is ejected from the peripheral vascular areas to the more roomy reservoirs of the splanchnic veins, which readily dilate to receive it, with the result that a pernicious splanchnic venous stasis is produced, concurrent with a capillary and arterial blood deficiency in the extremities and with an inevitable suboxidation of the dependent tissues in the extremities.

10. **Value of Test Feces in Diagnosis.**—Stern discusses the alterations produced in the stools in cases of intestinal disorder associated with gastric, hepatic or pancreatic disease. He believes that many of the transitory and milder intestinal disturbances are the result of gastric disease. Stern says that according to the extent and duration of the secondary, or intestinal affection other pathologic elements may be found admixed with the fecal masses, but the exhibition therein of large amounts of connective tissue fragments invariably points to the gastrogenous causation of the intestinal disturbance, no matter how completely the phenomena due to the latter may overshadow all subjective gastric symptoms. Disturbances of intestinal function are much more rarely the consequence of hepatic than of gastric disease. Almost all hepatogenous intestinal affections are caused by disordered biliary secretion. Stern says that biliary obstruction underlies the intestinal disorder when the test feces, 1, are excreted in very large quantities; 2, when they present a grayish-white color; 3, when the sublimate test is negative; 4, when considerable masses of the ingested fat reappear; 5, when very large amounts of fatty acid flakes can be demonstrated, and 6, when there are no pathologic amounts of other food débris present. The test feces in cases of pancreatic degeneration, contain similar amounts of fat, as those in biliary obstruction. They differ, however, from the latter: 1, by not being excreted in such large amounts; 2, by exhibiting normal quantities of biliary pigments; 3, by containing large quantities of muscle débris, which are macroscopically recognizable; 4, by frequently presenting its fatty contents in the form of globules of neutral fat, when examined under the microscope; 5, by the occasional exhibition of putrefactive changes.

11. **Medical Education.**—Castelli says that the medical student must be of mature age when he enters on his medical studies, because the lad of 22 has not the insight into the problems of life that is necessary in order to give his patient moral support and assistance as well as drugs. It is the lack of the power of mental dominance in physicians that has given to christian science and other "pathies" the position they hold. The physician should also be of the male sex, for woman, in addition to her physical infirmities, is handicapped in the practice of medicine by the fact that she is violating the fundamental principles of her being. Women have done and are doing splendid work in the profession, but it is at a mental and physical price which it is a pity that any woman should be compelled to pay. The physician furthermore in his own physical condition must be able to set an example to his patients and to make his own atmosphere one of physical rationalism. Culture and high moral qualities are also necessary to make the physician what he should be—the most tolerant of men, a man whose faith in mankind never wavers, who never permits his poise to be disturbed by the unworthy things of life or its disappointments, a man who believes in doing good and does it.

12. **Valvular Closure of Gall Bladder.**—Rockey has devised a plan of introducing the drainage tube into the gall bladder after cholecystotomy, which is intended to prevent the prolonged leakage of bile. The tube is inserted through the incision into the gall bladder, which is surrounded by a purse-string suture of catgut. The edge is turned in so as to bring the peritoneal surface into contact with the tube, and then a second purse string is placed about the first. On tightening this the first suture is invaginated into the gall bladder and a valve is formed varying in size according to the distance between the two sutures. The drainage tube should be fastened to the skin by anchor stitches of silkworm gut, to prevent the tension on the purse strings and consequent puckering of the valve. This is best done by passing a silkworm gut stitch at either side of the tube and tying a small loop above the first knot. A similar tie and loop of silkworm gut is made around the tube about one inch from the skin. A safety pin is then passed through the three loops, thus holding the tubes firmly in place. A firm dressing is applied and a bottle suspended from the bandage over the tube.

Medical News, New York.

December 2.

13 Present Fallacies in Medical Education. S. W. Lambert, New York.
14 *Is Paralysis Agitans Caused by Defective Secretion or Atrophy of the Parathyroid Glandules. W. N. Berkeley, New York.
15 Etiology, Gross Pathology, Symptoms and Surgical Treatment of Pyosalpinx. J. E. Cannaday, Paint Creek, W. Va.
16 Headache. J. N. Upshur, Richmond, Va.
17 *Studies in [illegible] P. Ravenel and H. R. M.
18 Substitutio[illegible] the Physician's Prescript[illegible] N. Y.

14. **Relation of Parathyroids to Paralysis Agitans.**—Berkeley discusses the clinical relationship of absence of the parathyroids or of disturbed function of these glands to disease, and whether such disease can be cured by the administration of the dried extract of the glands. Personally he believes that atrophy or insufficiency of the parathyroid glands is, perhaps, the cause of paralysis agitans. He has administered a physiologically tested gland in 11 cases of shaking palsy in all grades of advancement. All the patients remarked on a curious increase in courage, comfort and mental energy while taking the remedy. Berkeley states emphatically that the product used should be tested physiologically beforehand and should be kept on ice till used. The initial dose of the powdered gland is one-twentieth of a grain, from two to four times daily, preferably given in a capsule; larger doses appear to produce weakness, constipation, nervousness and even an exaggeration of the symptoms of the disease. The first good effects in the patients treated were noted, as a rule, only after from 50 to 75 capsules had been taken. Nine of the patients so treated were helped; one considered himself entirely relieved while taking the remedy. In all the earlier cases the patients were greatly helped. Berkeley believes that when a more perfect form of medication is devised the results may prove more encouraging.

17. ***Agglutination* in Tuberculosis.**—Studies in agglutination made by Ravenel and Landis for the purpose of determining whether the reaction is of any prognostic significance in tuberculosis, and whether the resistance of the individual is increased by the hygienic and dietetic means now employed, showed that the agglutination test is not available for diagnostic purposes, and that the more advanced the disease, the lower is the agglutinating power. Patients living under favorable conditions, as at a sanatorium, have the agglutinating power distinctly increased. A low agglutinating power is of unfavorable prognostic significance. The technic employed is as follows: From 5 to 10 c.c. of blood were drawn from a vein at the bend of the elbow. The blood was allowed to stand for twenty-four hours, when the serum was drawn off and dilutions were made with a homogeneous culture of tubercle bacillus in proportions of from 1 to 5 up to 1 to 100. The homogeneous culture was grown from twelve to fourteen days in 5

per cent. glycerin-bouillon, then formalin was added in proportion of 1 to 1,000. The tubes containing the culture and serum were observed every two or three hours, but the final reading was made at the end of twenty-four hours. A positive result consisted in a clearing of the supernatant fluid, or the agglutination of small whitish clumps, usually at the bottom, but occasionally along the sides of the tube.

New York Medical Journal.

December 2.

19 Surgical Clinic of To-day; Its Status and Methods of Teaching. N. Senn, Chicago.
20 Sarcoma of the Undescended Testes. J. A. Wyeth, New York.
21 *Extrauterine Pregnancy. C. P. Noble, Philadelphia.
22 Case of Acute Lymphatic Leukemia, with Consideration of the Pathology. W. Mendelson and F. E. Sondern, New York.
23 Diagnostic Significance of Headache in Diseases of the Ear, Nose and Throat. S. J. Kopetzky, New York.
24 Reflections Concerning Pretended Therapeutic Successes Obtained by Some Practitioners of the Ophthalmologic Specialty. M. Talmey, New York.
25 Nephritis and Hematuria. (Concluded.) H. A. Fowler, Washington, D. C.

21. **Extrauterine Pregnancy.**—Noble has operated in 91 cases of ectopic pregnancy—in 89 by abdominal section and in 4 by vaginal incision, 2 of these requiring subsequent abdominal section. In this series one tube was involved about as often as the other. In twenty women the opposite Fallopian tube was inflamed, the conditions present being salpingitis, hydrosalpinx and hematosalpinx. In no case was a pyosalpinx present on the opposite side. Noble says that this evidence tends to support the view that infection, of mild type, of the tube is a prominent cause of ectopic pregnancy. Noble believes that the causes of ectopic pregnancy are mechanical, due either to infection of the tube, to congenital defects in the tube, or to mechanical distortions which in some way prevent the onward progress of the impregnated ovum. Seven of the patients are reported as unruptured, 13 as ruptured, and 71 as having tubal abortion. Rupture of the tube, with resulting free hemorrhage, occurred in 14 cases. Tubal abortion, complete or incomplete, occurred in 70 cases. In cases of extrauterine pregnancy like those under consideration, Noble advises immediate operation. Light anesthesia, rapidity in operating, the ligation and removal of the affected appendage, the removal of the larger masses of blood clots manually, the removal of a portion of the free blood contained in the abdomen by irrigation with salt solution poured into the abdomen from a pitcher, the dilution of the remainder by leaving the abdomen filled with the salt solution, and the rapid closure of the abdominal wound without drainage, are the characteristics of the operation which, in his judgment, offers the patient the best chance for recovery. Refinement in technic in this group of cases is to be deprecated. The deeper anesthesia necessary, the loss of time entailed, and the additional handling of the viscera will make the shock already present more severe, greatly increasing the prospect of a fatal result. The freest hypodermic stimulation with strychnin, digitalis, and camphorated oil, and the use of salt solution by hypodermoclysis before, during, and after operation, are indicated. Tubal abortion, Noble says, demands prompt abdominal section, the removal of the appendage involved, the careful removal of the blood clots, toilet of the pelvis and peritoneum, and the closure of the abdominal wound *secundum artem.* Drainage is not called for. Existing complications must be dealt with as indicated. When the opposite appendage is diseased and its removal required, it is often simpler to perform a supravaginal hysterectomy rather than a bilateral salpingo-oöphorectomy. If the vermiform appendix is adherent to the hematocele, as is frequently the case, unless the condition of the patient forbids, it should be removed. In the exceptional cases in which a large amount of blood has been lost and the condition of the patient is serious, the question will arise as to whether operation shall be immediately performed or postponed until improvement has occurred. The proper course depends on whether hemorrhage is continuing or has ceased, and also on whether the patient is so situated that the operation can be performed immediately, should evidences of recurring hemorrhage become manifest. Errors should be made on the side of prompt operation rather than on that of undue waiting. When the condition of the patient is extreme from shock and excessive hemorrhage, the rules for operation in tubal rupture apply in dealing with tubal abortion. Noble's experience with extrauterine pregnancy has impressed on him two lessons: 1. A correct and early diagnosis can usually be made if the history of the patient is carefully elicited. The diagnosis depends as much on the history as on the results of physical examination. 2. If an early diagnosis is made, the patients can be operated on while still in good or fairly good condition, with the result of securing a high percentage of recoveries. Deaths from extrauterine pregnancy are usually due either to the occurrence of hemorrhage so sudden and profuse that the patients are *in extremis* before operation can be performed, or else they are due to failure to make a diagnosis or to unwarrantable delay in resorting to operation.

Boston Medical and Surgical Journal.

November 30.

26 Our First President, Dr. Edward A. Holyoke. F. Holyoke, Holyoke, Mass.
27 *Case of Diabetic Coma, with Recovery Under Alkaline Treatment. G. G. Sears, Boston.
28 Rupture of the Intestine. F. B. Lund, Boston.
29 Malignant Disease of the Lungs and Pleura. H. Jackson, Boston.

27. **Alkaline Treatment of Diabetic Coma.**—Sears reports the case of a boy, 13 years old, who was treated successfully during an attack of diabetic coma by the administration of large quantities of alkalies. Immediately after his admission to the hospital, the patient was given eight ounces of sterile salt solution, containing bicarbonate of soda almost to the point of saturation, under the skin of each breast. A solution of the same drug, in the proportion of a heaping teaspoonful to the tumbler, was given by mouth to the limit of his capacity. No record of amount was kept, but, as he was very thirsty, large quantities were taken. His stupor rapidly decreased, but he remained drowsy for several days. In spite of the large doses of alkali given, the urine remained persistently acid. Sugar varied between 1 per cent. and nearly 3 per cent. under a diet which contained a little bread and considerable quantities of milk. Acetone was more frequently present in the urine than absent. The only complication of note was the occurrence of suppuration at the site of the hypodermic injections. The injections were given by means of a glass flask used as a fountain syringe. Palpation of the suppuration gave the sensation of an air cushion, and crepitation was present. The patient made a complete recovery.

Lancet-Clinic, Cincinnati.

November 25.

30 Typhoid Fever in Children. M. A. Brown, Cincinnati.
31 Pathology of Epilepsy. M. R. Hughes, St. Louis, Mo.
32 Epilepsy. J. W. Selman, Greenfield, Ind.
33 Spirochæta Pallida. M. L. Heidingsfeld and A. J. Markley, Cincinnati.

Journal of Michigan State Medical Society, Detroit.

November.

34 *Preliminary Note on the Sterilization and Absorbability of Catgut. C. B. Nancrede, F. R. Waldron and C. F. Tenney, Ann Arbor.
35 Medical Inspection of Schools. G. L. Kiefer, Detroit.
36 Wound Infection from the Use of Absorbable Etage Sutures. S. C. Graves, Grand Rapids.
37 Diagnosis and Treatment of Empyema of the Chest. A. J. Lawbaugh, Calumet.
38 Value of Early Diagnosis in Ulcerations of the Anorectal Region. L. J. Hirschman, Detroit.

34. **Sterilization and Absorbability of Catgut.**—This paper presents the results of the attempts made by the authors to put on a demonstrative basis the questions: (1) As to what are the best materials for ligatures or buried sutures; (2) which is the easiest and at the same time the most reliable method of sterilization, and (3) what is the durability of absorbable material when buried deeply in the tissues. Experiments conducted under the supervision of Nancrede show that sterilization by the Claudius method is entirely reliable. Strands of No. 2 catgut, wound on glass rods and pieces of large white silk, were used. The catgut and silk were immersed in an emulsion of cultures of anthrax in sterile water for 24 hours at room temperature. The Claudius solution was made by grinding together one gram of pure iodin crystals and one gram of potassium iodid and adding 100 c.c. of distilled water. The silk and catgut were immersed in the Claudius solution and removed at stated intervals. It was found that the iodin carried over on the suture material prevented the growth of anthrax spores until sufficiently diluted. That silk and catgut, soaked in an emulsion of anthrax spores

for 24 hours and thoroughly dried, are rendered free from living organisms by at most from 2½ to 3 hours' immersion in the Claudius solution. Pieces of coarse cotton grocer's twine were soaked for 24 hours in emulsions made up of distilled water and potato cultures of anthrax, potato and hay bacilli, all showing abundant spores. Cover-glasses were also smeared with these same potato cultures, both twine and cover-glasses were afterward very thoroughly dried in the incubator. Both pieces of twine and cover-glasses grew their respective bacilli when put, untreated, into tubes of beef tea. The pieces of twine and cover-glasses so prepared were all immersed in the Claudius solution and removed at intervals. These experiments demonstrated that heavy cotton grocer's twine, soaked for 24 hours in an emulsion of the spores of anthrax, hay or potato bacilli, and thoroughly dried, is rendered free from living organisms by at most 24 hours' exposure to the Claudius solution, and that cover-glasses, smeared with potato cultures of anthrax, hay or potato bacilli containing spores, and thoroughly dried, are rendered free from living organisms by at most 24 hours' exposure to the Claudius solution. The first tensile-strength experiments showed the following: 1. Tight winding of the gut markedly affects the gut physically and reduces the tensile strength. 2. Solutions of iodin and potassium iodid do reduce somewhat the tensile strength of the gut. 3. More dilute solutions do not obviate this drawback, except the most dilute examined, which is probably not sufficiently germicidal. 4. Alcoholic solutions preserve or increase the tensile strength, except in dilutions which require the addition of potassium iodid to put the iodin in solution. 5. With a knot in the continuity of the gut, greater tension was almost invariably necessary to break the iodin gut than the wet, untreated gut. 6. The iodin gut is apparently somewhat more elastic than the wet, untreated gut. The second series of tensile-strength experiments showed: 1. The tensile strength of No. 1 gut is lowered by exposure to the Claudius solution, more so in case it has previously been exposed to formalin. 2. Certain pieces of gut are absolutely worthless as ligature or suture material after exposure to the Claudius solution. 3. With a knot tied in continuity the relative loss of strength is much less. 4. In replacing unused gut in the Claudius solution, aseptic gut only must be replaced, as the iodin was present in the solution in less than one-eighth its original strength. The gut must be kept in a glass-stoppered bottle, tightly closed.

Albany (N. Y.) Medical Annals.

November.

39 Conditions Having as Symptoms Pain and Tenderness in the Right Iliac Region. J. F. McGarrahan, Cohoes, N. Y.
40 End Results in Surgery of the Kidney. A. Vander Veer, Albany.
41 *Actinomycosis Limited to the Urinary Tract. D. MacD. Stanton, Albany.

41. Actinomycosis Limited to Urinary Tract.—The case reported by Stanton was clinically one of cystitis and pyelonephritis. The actinomycotic character of the kidney lesion was not recognized during life nor at the time of the autopsy, but was discovered on histologic examination of the kidney. About two months before his death the patient began to have difficulty in passing urine. He could pass only a small amount at one time. For some time before admission he had been troubled with incontinence. The urine was low in specific gravity, 1010. The blood examination showed a hemoglobin value of only 45 per cent. There was no leucocytosis. While in the hospital the patient had an irregular temperature ranging from 99 to 103, and was slightly irrational the greater part of the time. The treatment was purely symptomatic. A histologic examination of portions of the kidneys containing abscesses disclosed colonies of actinomyces. The mode of infection in this case was doubtful, but Stanton suggests that it is more than possible that the lesion in the urinary tract was secondary to a primary focus which had existed in some other part of the body, but which had disappeared at the time of the autopsy. A small scar-like area in the colon, suggesting a healed ulcer, various peritoneal adhesions and an old scar on the outer aspect of the right thigh, each suggested antecedent inflammatory conditions offering possible routes of infection, but no connection could be traced between any of these and the lesion in the urinary tract.

Medicine, Chicago.

November.

42 Echinococcus Multiloculare. (To be continued.) W. R. Smith, South Australia.
43 Word-Blindness Due to a Lesion in the Right Cerebral Hemisphere in a Right-handed Man. C. K. Mills and T. H. Weisenburg, Philadelphia.
44 *An Adjunct to the Fresh-air Treatment of Consumption. G. T. Carpenter, Chicago.

44. Adjunct to Fresh-Air Treatment for Consumption.—There are many reasons, says Carpenter, why persons suffering from pulmonary tuberculosis can not leave their homes for a more suitable climate. To give such patients all the fresh air possible and still permit them to remain indoors, Carpenter devised an apparatus of simple construction, which consists of tubes large enough for the passage of air at normal air pressure, and light enough to be easily handled. The face piece, or mask, can have a transparent front, and is supported by a net cap, which will hold it firm in all positions. Large valves control the passage of air. The tubes are composed of coiled aluminum wire, covered with a light fabric which is impervious to air. These tubes are conducted to a panel which is fitted in an open window, with a suitable aperture to receive it, and a protecting hood on the outside. Openings can also be made through the outside wall of a bedroom to the outer air, choosing a side where the sun shines. The tubes may be detached from the opening, and the opening closed, and the apparatus can be carried to another part of the house and attached to an opening through the wall or paneled window. The mask is so arranged that it can be detached from the net cap, which is convenient in case of a desire to cough or to expectorate. The inhalation tube can be large and contain the exhalation tube, so that but one tube is in sight, and yet all exhalations are carried to the outside of the house. With this contrivance it is possible for patients to have fresh air, no matter what the state of the weather. They can also enjoy a sun bath in a superheated room, if desired, and inhale fresh air at the same time.

Texas State Journal of Medicine, Fort Worth.

November.

45 Diagnosis and Treatment of Gallstones. J. E. Thompson, England.
46 *Penetrating Wound of the Eyeball. H. C. Hayden, Galveston.
47 Abdominal Hysterectomy for Removal of Suppurating Uterine Fibroid. H. A. Barr, Beaumont.
48 Medicolegal Aspects of Insanity. J. T. Searcy, Tuscaloosa, Ala.
49 Conservative Treatment of Injuries of the Hands and Feet. E. V. Harris, Navasota.
50 Considerations Seeking a Higher Standard of Nervous and Mental Health. G. H. Moody, San Antonio.
51 Conservative Treatment of Trachoma. E. D. Capps, Ft. Worth.

46. Penetrating Wound of Eyeball.—The feature of special interest in Hayden's case was the fact that the eye which was so badly injured as to seem hopelessly lost should recover itself with comparatively little inflammatory reaction. The patient had been struck in the left eye by a flying projectile, presumably glass, from an exploding oil-carrier. After cleansing the eye, there was seen to be a somewhat vertically placed wound in the conjunctiva and sclera to the nasal side of the cornea. The margins of the wound were ragged, and its shape was that of an obtuse angle, with its apex pointing toward the cornea. The contraction of the internal rectus muscle made the wound gape. There was some blood in the anterior chamber and cloudiness of the anterior part of the vitreous. No foreign body could be found. The scleral wound was closed by one silk suture and the conjunctiva was brought together over it by two sutures. Twelve days after the injury it became necessary to make an incision with the keratome in the lower part of the cornea to allow the blood to flow out from the anterior chamber. The case went on to complete recovery, the patient regaining useful vision.

Canadian Journal of Medicine and Surgery, Toronto.

November.

52 New Conceptions of the Living Cell; Its Chemical Structure and Its Functions. V. C. Vaughan, Ann Arbor, Mich.
53 Prevention of Insanity. C. Meyers, Toronto.

The Ophthalmic Record, Chicago.

October.

54 Pterygium. T. H. Shastid, Harrisburg, Ill.
55 Vernal Conjunctivitis in the Negro. D. Roy, Atlanta, Ga.
56 Trachoma as Treated by Dr. Herman Kuhnt of Koenigsberg. F. E. Brawley, Chicago.

Vermont Medical Monthly, Burlington.

November 25.

57 Uncommon Acute Infections with Surgical Treatment. S. E. Maynard, Burlington.
58 Climatic Treatment of Tuberculosis. J. S. Horner, West Pawlet, Vt.

Chicago Medical Recorder.

November 15.

59 The Conservative Treatment of Severe Ocular Injuries. F. Allport, Chicago.
60 High Forceps, Pelvic Inlet Forceps. Its Indications and Relations to Forceps and Version. G. Schmauch, Chicago.
61 Formalin in the Treatment of Diseases of the Ear, Nose and Throat. O. J. Stein, Chicago.
62 Rare Specimen of a Roentgenogram of a Brain Tumor. M. Reichmann, Chicago.
63 Notes on the Structure, Technic and Diagnostic Advantages of the Cystoscope. F. A. Leusman, Chicago.
64 Urinary Antisepsis with Hexamethylenamine (Urotropin). J. C. Warbrick, Chicago.

Bulletin Johns Hopkins Hospital, Baltimore.

November.

65 Contributions of Pharmacology to Physiology. H. Meyer, Vienna.
66 Observations on Several Cases of Acute Pancreatitis. W. S. Thayer, Baltimore.
67 Diaphragmatic Grooves on the Liver. R. O. Moody, San Francisco.
68 Rise of the Present Conceptions as to the Cause of the Heart Beat. E. G. Martin.

Illinois Medical Journal, Springfield.

November.

69 Edema of the Lungs Following Thoracentesis. S. M. Miller, Peoria.
70 Considerations on Phlegmon of the Orbit. C. H. Beard, Chicago.
71 Nervous Cases for the General Practitioner. J. Grinker, Chicago.
72 Pneumonia in Children. J. C. Cook, Chicago.
73 *Practical Significance of Certain Common Symptoms in the Upper Abdomen. J. F. Percy, Galesburg.
74 Pathology and Diagnosis of the Lesions of the Spinal Cord and Peripheral Nerves. F. P. Norbury, Jacksonville.
75 Cases Demanding Removal of the Eye of Interest to Physician and Surgeon. J. B. Loring, Chicago.
76 Inversion of the Uterus. P. L. Markley, Rockford.
77 Ocular Manifestations of Chronic Nephritis. L. E. Schwarz, Chicago.
78 Medical Treatment of Nephritis. A. R. Elliott, Chicago.
79 Bronchoscopy for Removal of Foreign Bodies from the Lungs. E. F. Ingals, Chicago.

73. See abstract in The Journal, July 8, 1905, page 78.

Texas Medical Journal, Austin.

November.

80 Effect of Lesions of the Oral Cavity on Other Organs and on the System at Large. P. Cheaney, Dallas, Texas.
81 Abdominal Section for Fecal Impaction. J. M. Neel Bonham, Texas.
82 Hemoptysis, Causes and Treatment. L. Sexton, New Orleans, La.

Western Medical Review, Lincoln, Neb.

November.

83 Indications for Operation in Mastoid Disease. S. E. Cook, Lincoln.
84 Mastoiditis with Spontaneous Perforation into the Digastric Fossa. F. S. Owen, Omaha, Neb.
85 Diagnosis in Hemorrhage from the Gastrointestinal Tract. W. F. Milroy, Omaha, Neb.

Louisville Monthly Journal.

November.

86 Nervous Disorders of Children. J. Punton, Kansas City, Mo.
87 Illustrative Cases in Abdominal and Pelvic Surgery. L. S. McMurtry, Louisville, Ky.

Oklahoma Medical News-Journal, Oklahoma City.

November.

88 President's Address. W. T. Tilly, Pryor Creek, I. T.
89 Typhoid Fever. P. Donohoo, Afton, I. T.
90 Gastric Ulcer. F. M. Duckworth, Claremore, I. T.
91 Perineal Prostatectomy. V. Berry, Wetumka, I. T.

Northwestern Lancet, Minneapolis.

November 1.

92 Etiology and Pathology of Lobar Pneumonia. J. W. Aird, Provo, Utah.
93 Symptomatology and Diagnosis of Pneumonia. F. H. Raley, Salt Lake City, Utah.
94 General Treatment of Pneumonia. C. M. Wilson, Park City, Utah.
95 Surgical Complications in Pneumonia and Their Treatment. S. H. Allen, Salt Lake City, Utah.
96 Present Status of the Treatment of Prostatic Hypertrophy. E. O. Jones, Murray, Utah.
97 Tubercular Cyst of the Mesentery. A. E. Spalding, Luverne, Minn.

Kentucky Medical Journal, Louisville.

November.

98 The Relation of Laboratory Methods to Medicine. J. T. McClymonds, Lexington, Ky.
99 The Business Side of Medicine. H. F. Bean, Auburn, Ky.
100 Autointoxication and Infection. L. T. Eckler, Sunrise, Ky.
101 Psychic Influence as a Therapeutic Agent. A. J. McNees, Lancaster.
102 Some Advantages to be Derived from the Use of Small and Frequently Repeated Doses of Medicine. A. Dixon, Henderson, Ky.
103 First Case of Placenta Prævia Centralis. S. B. Bunch, New Roe, Ky.

Journal of the Association of Military Surgeons of the United States, Carlisle, Pa.

November.

104 Experiences During the Russo-Japanese Naval War 1904-1905. S. Suzuki, *Tokio, Japan.*
105 Difficulties in the Diagnosis of Yellow Fever, as Seen on the Isthmus. H. C. Curl, U. S. N.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

November 18.

1 *Operative Treatment of Simple Fractures. W. A. Lane.
2 Operative Interference in Fractured Clavicle. H. N. Taylor.
3 Case of Congenital Synostosis of Both Upper Radioulnar Articulations. S. Hamilton.
4 *Influence of Posture on Normal Cardiac Sounds and on Normal Cardiac Dullness. W. Gordon.
5 *An Aid to Prognosis in Typhoid. R. M. Simon.
6 Diarrhea Caused by the Bacillus Prodigiosus. L. C. Parkes.
7 *Spirochetes in Parangi (Yaws). A. Castellani.
8 John Mirfeld (1393) and Medical Study in London During the Middle Ages. N. Moore.
9 Case of Traumatic Asphyxia. W. S. Robertson.

1. Operative Treatment of Fractures.—Lane discusses the treatment of simple fractures devised by him thirteen years ago, and cites illustrative cases.

4. Influence of Posture on Heart.—Gordon is of the opinion that the change in the normal heart sounds produced by change of posture may be explained, in part, at least, by the different relations of the valves to the weight of blood in contact with them in the different positions. An examination of 36 consecutive unselected cases with normal hearts showed that posture also affects the deep cardiac dullness, although in a very small number of cases the over limit of dullness rises instead of falls.

5. Aid to Prognosis in Typhoid.—For the last nine years Simon has made daily observations of the amount of urine passed by every patient suffering from enteric fever. He found that polyuria occurred not only in every case that was doing well, but also in many cases of great severity in which no general improvement or amelioration of symptoms could be observed. He also found that even in severe cases, if polyuria occurred, the patients all recovered. In no cases in which polyuria was noted has he known perforation to occur, and in no case has hemorrhage of any moment ever occurred after polyuria had been established. Furthermore, relapses occurred only rarely when polyuria had once begun.

7. Parangi.—In 7 out of 11 cases of parangi Castellani found spirochetes, one variety being identical with the organism described by Schaudinn. Peculiar oval, chromatin-containing bodies were also observed in 4 cases, 3 among those presenting spirochetes. Castellani does not offer any suggestion as to the identity of these bodies.

The Lancet, London.

November 18.

10 Pathology, Affinities, and Treatment of So-Called Bleeding Polypus (Discrete Angeioma) of the Septum. L. H. Pegler.
11 *Advanced Cancer of Breast Treated by Operation and X-ray. A. M. Sheild and H. L. Jones.
12 Bier's Osteoplastic Amputation. J. H. Pringle.
13 Case of Vesicovaginal Fistula Followed by Hematometra and Pyonephrosis. J. Phillips.
14 Glass a Substitute for Lint in the Treatment of Granulating Wounds. J. L. A. Aymard.
15 Position, Use and Abuse of Mental Therapeutics. J. W. Springthorpe.
16 Case of Gastric Tetany; Gastroenterostomy; Recovery. W. A. Mackay and I. Macdonald.
17 Diphtheria in a Patient 79 Years of Age, with Subsequent Freedom from Old Gouty Symptoms. J. Birt.
18 Action of External Muscles of Eye and Diagnosis of Ocular Paralysis. D. M. Mackay.

11. Operation and X-Rays in Breast Cancer.—Sheild operated on a woman aged 46 for an advanced hard carcinoma of the breast. The axillary lymph glands were removed as well as the lower portion of the pectoral muscle. Although the wound could not be closed, healing progressed satisfactorily. Four months later there was evidence of a recurrence in the intercostal spaces. Eight or ten nodules were removed, and two months afterward six more nodules were removed. A fourth operation was done three months afterward. The patient's condition remaining unfavorable, *x*-ray treatment was advised. In addition the patient was ordered to take 5 grains of quinin hydrochlorate on the mornings of the days of the *x*-ray applications. For two months *x*-ray applications were made twice a week; then once a week. Within three weeks from the commencement of the treatment the patient's condition improved, and at present she is quite well. There is no sign of carcinoma. The *x*-ray applications were of twelve minutes' duration, the tubes used being soft or of medium hardness, and the current between 0.5 and 0.8 mp. The surrounding parts were not screened except the face, arm and forearm. There was no dermatitis or pigmentation.

Glasgow Medical Journal.

October.

19 *Radical Cure of Inguinal Hernia. J. H. Nicoll, Glasgow.
20 Pathogenesis of Enteric Fever. A. R. Ferguson.
21 Agglutination Test in Diagnosis of Enteric Fever. R. M. Buchanan.
22 Abortive Cases of Enteric Fever. J. Brownlee.
23 Diagnosis of Peritonitis in Enteric Fever. F. Macrae.
24 Surgical Aspects of Enteric Fever. T. K. Dalziel.

19. **Radical Cure of Inguinal Hernia.**—The method of operating followed by Nicoll is applicable to both femoral and inguinal hernia. Its main features are: 1, The employment of the sac to form an intra-abdominal buttress over the internal aspect of the hernial aperture; 2, the use of the pubic ramus as a *point d'appui* in the process of closure of the hernial canal, and 3, the additional security of closure obtained by the superposition on the bone sutures of a plane of musculo-fascial sutures. In ordinary cases Nicoll says that his method gives results as good as, but no better than, many of the other methods in use. In severe cases—cases of large hernial aperture, or lax and atrophic parietes, or high intra-abdominal tension from omental corpulence—the method, with its double closure of the canal, by bone suture, followed by musculo-fascial sutures, attains a high degree of security. One of the main ideas concerned in the application of this method of inguinal hernia is to reinforce in such cases the defective Poupart's ligament by the backing of the pubic ramus. The treatment and final bestowal of the sac are carried out as in femoral hernia, the sac being lodged over the internal aspect of the internal inguinal ring, as a pad resting between the parietal peritoneum, on the one hand, and the fascia transversalis on the other. With blunt retractors the spermatic cord (or round ligament) is pulled upward, and Poupart's ligament downward. An incision is carried along the superior aspect of the pubic ramus. This divides the iliac fascia, the origin of the pectineus, and the periosteum; its limits are the pubic spine and the femoral sheath. Both margins of the periosteal wound are slightly detached. The bone is then drilled near its upper margin in two places, from half an inch to one inch apart. The drill-holes are situated somewhere between the pubic spine and the femoral sheath, their exact position varying with the shape and size of the hernial aperture. The drill may be applied to the bone above the level of the retracted Poupart's ligament in cases in which that is sufficiently lax to afford the necessary room for passing the drill transversely through the bone. In cases in which that is not so, the drill should be applied to the anterior surface of the bone, below the level of Poupart's ligament, and, in consequence, after perforating the pubic portion of the *fascia lata*. Transverse perforation of the bone is essential. Oblique perforation places the internal apertures of the drill-holes far down on the posterior aspect of the bone, and makes them more or less inaccessible. A stout absorbable ligature is passed in the form of a large mattress suture, through the internal pillar of the hernial aperture. Nicoll says that it is essential that this should have a "good bite" of the conjoined tendon and of the transversalis fascia; it may or may not include the external oblique. During the placing of the suture the peritoneum is protected by the finger passed through the canal into the extraperitoneal fat behind the internal pillar. The ends of the sutures are passed out through the holes drilled in the bone. The sutures may pass in front of the spermatic cord or behind it as may seem best to secure firm closure of the canal without undue compression of the cord. In the former procedure the cord will occupy the position of the direct inguinal hernia, in the latter that of the oblique variety. The ends of the two loops of ligature are tied separately. The tightening of the knots brings the internal pillar down into the periosteal incision, and lodges it firmly against the bone. The factor in choice of the position of both drill and ligature knots is the degree of relaxation which has occurred in Poupart's ligament. In all cases the knots should be tied firmly to lodge the internal pillar against the bone. Here the amenity of the spermatic cord is efficiently protected, as is that of the femoral vein in the femoral operation, by adjusting the position and size of the loops of suture in the internal pillar, and not by varying the tension of the knots. Should threatened compression of cord (or vein) necessitate the "replacing" of the loops, time may be saved by dividing each loop above the bone, and retaining the ends as tractors for the passage of the new sutures. The operation is completed by lifting the lax Poupart's ligament to the anterior surface of the internal pillar and fixing it there by interrupted sutures, which should be of stout catgut or other absorbable material, and should penetrate at least the external and internal oblique muscles. This final step in the operation is made possible solely by the lax condition of Poupart's ligament. It is difficult in a small hernia. The method may be modified in cases in which the operator finds himself unprovided with a drill. The anterior lip of the periosteal incision may be slightly raised, and the ends of the suture carried through it from within outward and tied there. The knot may lie above or below the level of Poupart's ligament. The operation is finished by suturing Poupart's ligament to the anterior surface of the internal pillar as described above. The closure obtained by the modified operation is less secure than when bone suture is employed, but has been found efficient.

Journal of Tropical Medicine, London.

November 1.

25 Further Note on a Form of Malarial Parasite Found in and Around Jerusalem. J. Cropper.
26 Cancer in the Gilbert Islands. A. Robertson.
27 Case of Tertiary Syphilis Obscured by Typohid Sequelæ. W. Hartigan.
28 Notes from Angola. F. C. Wellman.
29 Smallpox Inoculation in India. G. H. Fink.

Bulletin de l'Acad. de Médecine, Paris.

30 (Year LXIX, No. 36.) *Invaginations de l'appendice ileo-cécal. Jalagüier and C. Monod.

30. **Invagination of Appendix.**—Jalaguier ascribes to invagination of the appendix a certain number of fatal cases of intestinal obstruction in young children. In two cases of scrotal hernia in children in which the appendix was involved he has observed that it possessed the property of vigorous contractions. At one moment soft and small, it would then grow gradually harder and larger, until it formed a stiff, curving rod, easily palpable and even visible through the walls of the scrotum. The contractions starting in the appendix were invariably transmitted to the cecum, which became hard and stiff in turn. It even seemed as if the peristaltic movements of the cecum and large intestine started in the appendix, and were propagated thence to the rest of the mechanism as the crank of the automobile starts the machinery to work. In case of disturbances in the cecum the contractions of the appendix might not be passed along; and the result would be invagination of the latter in the former. He has observed 3 cases of this kind. In the first the invagination became spontaneously reduced; in the second it was a casual discovery at an appendicectomy after subsidence of appendicitis, and in the third, symptoms of enterocolitis were accompanied by a tumor suggesting a floating kidney, which appeared and vanished at intervals. The tumor was assumed to be a recurring invagination, and the lower part of the cecum, part of the appendix and the ileocecal valve were found invaginated in the cecum, while the ileum was also invaginated to a depth of 2 cm. The patients were children from 7 to 11 years of age. Nineteen published cases of invagination of the appendix are reviewed and tabulated, and also Wallace's case in which the appendix was passed in stool, the patient having thus performed an auto-appendicectomy.

Semaine Médicale, Paris.

31 (XXV, No. 46, Nov. 15.) *Le syndrome myotonique. L. Lévi.

31. **The Syndrome of Myotonia.**—Lévi proclaims that the sarcoplasmic theory in regard to the origin of Thomsen's disease or myotonia congenita connects all the various forms of this disease while distinguishing them. This theory is based on the comparison between the myotonic syndrome and the functions of sarcoplasm, the interfibrillary substance of the striated muscles. He analyzes the literature on the subject and describes the various forms of acquired and congenital myotonia, citing typical examples of each. His arguments tend to prove that the muscular tonus, the function of the sarcoplasm, exhibits the myotonic syndrome when in exaggerated function. This myotonic syndrome may be the result of imperfect development of the muscle or of toxic or nervous irritation of the sarcoplasm.

Berliner klinischer Wochenschrift.

32 (XLII, No. 40, Oct. 2.) Practical Value of Commercial Diagnostic Fluids in Typhoid.—Ueber die prakt, Leistungsfähigkeit diagnostischer Flüssigkeiten für typhoide Erkrankungen des Menschen. P. P. Klemens (Prague).
33 *Die placentare Uebertragung der natürlichen Immunität (transmission of immunity). A. Schütz (Budapest).
34 Determination of "Dumb-bell Bacillus" in Chronic, Villus-Forming Polyarthritis, und ueber Beziehung der Syphilis zu derselben. M. Schüller.
35 *2 Fälle von Nephritis achlorica mit vikariierender Hypersekretion des Magens (of stomach). H. J. Bing (Copenhagen).
36 *Behandlung des Schnupfens der Säuglinge und kleinen Kinder (coryza in young children). K. Vohsen.
37 Intravenöse Injektionen. T. A. Maass.

33. **Natural Immunity.**—The conclusions of Schütz's investigations are that the new-born child acquires its natural immunity by way of placental transmission. The colostrum has no protective action, and when diphtheria antibodies can be found in the blood serum, they may be entirely absent from the stomach contents. The protecting power of the child's serum is never higher than that of the mother's serum. The presence of diphtheria antibodies in the blood serum of young infants does not indicate that they are actually immune to the disease, only, at most, that their receptivity has been diminished.

35. **Nephritis with Complete Absence of Chlorids.**—Bing relates the particulars of 2 cases of nephritis distinguished by the entire absence of chlorids from the urine. When the salt in the organism accumulated to a certain point it was eliminated into the stomach by an excessive gastric secretion, and this hypersecretion always induced copious vomiting. The vomiting occurred invariably after the patients had eaten much salt. The nephritis was not very severe, and conditions were finally restored approximately to normal. The albuminuria gradually subsided, the chlorids appeared in the urine, and the attacks of vomiting ceased. The freezing point of the blood had remained normal throughout, and there was no tendency to dropsy. The exact similarity between 2 cases suggests that the syndrome observed may be regarded as a special affection. The patients were a laboring man and woman in the thirties, both previously healthy.

36. **Treatment of Coryza in Infants.**—Vohsen calls attention to the fact that coryza paves the way for otitis, gastrointestinal disturbances, pneumonia and cerebrospinal meningitis, and emphasizes the importance of treating it to ward off these secondary affections. He relieves coryza in adults by reducing pain and swelling with a solution of suprarenal extract, cocain and water, applied on a cotton-wound wire. As infants are unable to blow their nose, this measure does not help them. He accomplishes the desired purpose with what he calls the air nose douche. A rubber tube about 25 cm. long, with the nose end cut slanting, is inserted in one nostril and air is blown into the nostril under moderate pressure from a rubber bulb or the mouth. Infants and small children usually resist and scream when the tube is being inserted, and this closes the entrance into the air passages below, so that the air blown in pours out at once through the other nostril. The air douche is always given on the side that is closed the most. It is repeated before the child is fed; the secretions escape with the air and are thus blown out through the other nostril. The same procedure will be found a great help for older children when there is difficulty in blowing the nose. In one instance Vohsen was thus able to release and to evacuate in the most gentle manner a complete fibrinous cast of the nose and nasopharyngeal space in a case of diphtheria in a child of 2. The air douche is also useful for diagnosing adenoid vegetations. He has never noticed anything suggesting danger for the middle ear from the air douche. Others have advocated aspiration of the contents of the nose, but this is liable to increase the hyperemia without insuring as radical cleansing as his technic. The nasal air douche has never failed to relieve the obstructed condition of the nose in young children when the latter is due merely to an acute infection.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 1611.

38 (XXIX, No. 38, Sept. 23.) Ueber den Kaiserschnitt in der Agone und post-mortem bei [illegible] wangeren (Cesarean section in heart [illegible]
39 Kontraktions-Ring und innerer [illegible] os). O. Schaeffer.
40 Pro Domo. H. J. Kreutzmann (San Francisco).
41 (No. 39.) Proportions Between Sexes of Newborn Infants, with Special Regard to Macerated Children.—Geschlechtsverhältnis der Neugeborenen mit besonderer Berücksichtigung der mazerierten Kinder. C. J. Bucura.
42 *Elevating the Pelvis for Spinal Anesthesia.—Beckenhochlagerung bei Rückenmarksnarkose. R. Freund (Veit's clinic, Halle).
43 *Die Bier' sche Stauung in der gynäkologischen Praxis (congestive hyperemia). J. Rudolph.
44 (No. 40.) *Untersuchungen ueber das Wesen der Eklampsia (nature). M. Reeb.
45 Ueber die sekretorischen Fähigkeiten des amniotischen Epithels (secreting capacity). O. Polano.
46 Zur Kasuistik und Technik der Hebotomie.—Eine neue Hohlsondennadel zur Einführung der Gigli'schen Drahtsage (needle for introducing wire saw). L. Seeligmann (Hamburg).
47 *Wechselnder Tonus der Gebärmutter auf intra-uterine Reize hin (varying tonus of uterus). O. Schaeffer.
48 (No. 42.) *Zur Pubiotomie. K. Reifferscheid. Id. H. Hohlweg.
49 (No. 43.) Behandlun[illegible] Blutergusses nach Tuben-Ruptur [illegible]
50 *Ein neues Operations-V[illegible] s totalen Prolapses bei klimakterischen Frauen. T. Landau (Berlin).
51 Missed Labour bei Placenta prævia centralis. Chvojka.

42. **Spinal Anesthesia with Elevated Pelvis.**—Freund had occasion to operate in 2 cases of carcinoma of the cervix requiring the elevation of the pelvis. The operation was done under spinal anesthesia induced with 0.06 gm. stovain and a little extract of the suprarenal gland and salt, the combination known as Billon's mixture. The anesthesia was complete in four or five minutes and lasted for an hour and a quarter to two hours. One of the patients showed minimal symptoms of collapse, weaker pulse, cold sweat on the face and slight groaning, but these symptoms were slight and transient. The second patient had only the two last symptoms in an almost imperceptible degree. There was no pain, and after the operation the patients were entirely free from vomiting, headache or fever, and did not present the appearance of having just passed through a severe operation. One left her bed the fourteenth day and the hospital the seventeenth. The other was so debilitated that a longer period was necessary for her to regain strength. In 5 other cases of tuberculous peritonitis, echinococcus of the mesentery, carcinoma of the ovary or myoma with carcinoma of the ovary, spinal anesthesia by this technic, with the pelvis raised, gave invariably excellent results.

43. **Bier's "Passive Congestion" in Gynecologic Practice.**—Rudolph discusses the three ways in which Bier induces artificial congestive hyperemia: by superheated air, by constricting the limb above, and by the suction of an air pump. The superheated air acts in the same way and is fully as effective as irrigation with hot water, and can be used for the same indications. He gives illustrations of the wood, asbestos and metal, bent, flaring tube which he uses when applying superheated air to the vagina. Also of the solid glass speculum with a cork plug in the flaring end, through which passes a tube from a vacuum pump. By inducing suction with the pump the parts can be seen to swell and become dark red in color. Some blood usually accumulates in the speculum. This local suction is indicated in case of inflammatory processes in the cervix or corpus uteri. The result obtained depends on the greater or less stability of the tonus of the vessel nerves. The uterus as a whole is liable to be influenced by this stimulation of the nerves. Most of the women complained of labor-like pains after the suction had lasted some time. Amenorrhea is often favorably influenced. Suction might also prove an excellent preliminary to dilatation of the internal os. It makes the tis-

sues softer, collects blood in them and renders them less sensitive. The suction speculum is merely a glass speculum, syringe and tube, and the *modus operandi* is extremely simple. The blood-drawing action of the vacuum suction suggested to him that possibly the opposite—the compression with air—might have the contrary effect and check bleeding. He tried this measure in 2 cases, filling the vagina with filtered air under pressure. This pneumatic tamponing accomplished the desired result very promptly. He does not think that there is danger of air embolism except in case of a recently delivered uterus, but still great caution should be exercised with this air tamponing. By alternating suction and compression from the vacuum pump, it might prove possible to draw down and to push up the uterus in turn, thus massaging its supporting ligaments and toning them up if relaxed.

44. Nature of Eclampsia.—Reeb has succeeded in isolating from the urine of eclamptic women a yellowish, insoluble mass which induces paralysis when injected into frogs and guinea-pigs. This substance was never found in the urine of normal parturients. He also pulverized the brains of two women dead of eclampsia and found that the powder induced progressive paralysis in rabbits. He suggests the possibility that in the organism of the pregnant woman or in that of the fetus or in the placenta, some tetanizing poison may be produced which is eliminated without disturbance under normal conditions, but which accumulates and causes intoxication in case its elimination is interfered with in any way. He suggests, as an analogy, samandarin which is a normal metabolic product of the salamander, but which has first an exciting and then a paralyzing action.

47. Varying Tonus of Uterus in Response to Intrauterine Stimuli.—Schaeffer proclaims that the varying tonicity of the uterus is due to vasomotor as well as to purely motor influences. It is a co-ordinate function. Every dilating stimulus emanating from the internal os has a regular, dilating influence, even on the non-gravid uterus. The fundus balloons out regularly on all sides and stretches upward. The grating during curettement is due to the formation of ledges by the especially strongly contracting muscularis. The uterus of nulliparæ is not capable of a high degree of relaxation. A predisposition to a high degree of relaxation is afforded by retroflexed and originally hypoplastic uteri, by those with edematous myometritis and in anemic multiparæ, in uteri after abortion with metrorrhagia and in cases of degeneration of the ovaries. The uterus in these cases may bag out or may be asymmetrically stretched. The difference may be from 2 or 3 cm. to 11 or 12 cm., and is noted when the sound is introduced into one of the horns of the fundus. The uterus should be curetted only with a blunt spoon in such cases. If it measures longer than from 12 to 14 or 15 cm., this suggests the suspicion of defective involution of the entire fundus, especially of one horn after an early abortion. Schaeffer's experience has shown further that affections of the adnexa causing metrorrhagia also induce a predisposition to a lively alternating tonus, similar to that of pregnancy, and from this up to paralysis. The sound may show a difference of from 8.5 to 10.25 cm. during a single examination of the subinvoluted uterus. Perforation may occur without the slightest sensation of resistance, and even with a wide metal dilator, but always and exclusively in the vicinity of the tubes.

48. Extramedian Symphyseotomy or Pubiotomy.—These two communications each describe 4 cases in which women were delivered by sawing the pubic bone on one side. The results, both immediate and remote, were most excellent.

50. Operation for Total Prolapse of Climacteric Women.—The main features of the technic which Landau describes are the fixation of the posterior part of Douglas' cul-de-sac to the highest part of a sagittal incision in the vagina. The operation is a kind of incomplete extirpation of the uterus with this permanent fixation of Douglas' pouch. A muscular support is retained from the rear wall of the cervix or corpus uteri or both, and the cul-de-sac is thus strengthened by resistant tissue, so that it can hold up the contents of the abdomen. The operation is a combination of an exaggeration of Wertheim's technic with almost total resection of the uterus.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

52 (XXXI, No. 41.) [illegible] Gallensteinkrankheit (gallstones). T. [illegible]
53 Isolierte neuritische [illegible] (paralysis of abdominal muscles). O. Minkowski.
54 *Unfall und multiple Sklerose (and trauma). E. Grossmann.
55 *Unterbindung der Venæ spermaticæ und hypogastricæ bei puerperaler Pyämie (ligation in treatment). H. Haeckel.
56 *Ueber Prostatektomie. A. Schlesinger.
57 Ueber isolierte [illegible] langen Rohrenknochen (in long bon[illegible]
58 *Ueber die Spiro[illegible]

54. Trauma and Multiple Sclerosis.—Grossmann describes the case of a strong, young laboring man of 28 who fell from a moderate height while cleaning a window; he was leaning against a wire which broke. He was unconscious for a short time and two days later, when examined in the hospital, exhibited a typical case of multiple sclerosis. His friends had never noticed any indications of anything abnormal before the accident, but it seems impossible for the atrophy of the optic nerve, the "intention tremor" (on attempting voluntary movements), and the differences in the knee jerks to have developed in the course of two days. The multiple sclerosis must evidently have developed in two phases. In the first it remained latent and did not interfere with the man's working capacity. With the trauma the affection entered its second, severer phase. The man did not mention the accident, and it was only learned accidentally later. The case illustrates the way in which trauma can exaggerate an existing multiple sclerosis, but it also casts doubt on the assumption that trauma alone is able to induce the affection.

55. Ligation of Ovarian and Hypogastric Veins in Puerperal Pyemia.—Haeckel comments on the 4 cases of this procedure that have been published since Trendelenburg first suggested it. Michels reported one, and Bumm has recently published another successful case. Haeckel applied it in the case of a woman of 42 who presented evidences of pyemia after the removal of a vesicular mole. The fever persisted and severe chills recurred every day, but there were no signs of metastatic suppuration and the genital findings were normal, only in the parametrium something resembling a soft worm could be felt. After two weeks of this condition he opened the abdomen on the median line, but found no indications of inflammation or adhesion; all the organs were exceptionally pale, the ovarian and hypogastric veins were visible as soft cords. The peritoneum was incised over the right ovarian vein and the vein was ligated with a fine silk thread. The incision in the peritoneum was then extended, the ureter and the hypogastric artery were drawn aside and a fine silk ligature was thrown around the right hypogastric vein. The subserous tissue was a little tougher and less easily pushed aside than in normal conditions. The veins on the left side were then ligated in the same way, the incision in the peritoneum was closed with a running suture and the abdominal wound was closed by three tiers of sutures. The next morning there was a single, comparatively feeble chill and no more for two weeks, when there was a slight intimation of one, but the general health rapidly recuperated after the operation, and in less than six weeks the patient was regarded as cured. Except for a slight, transient swelling of the right leg no local reaction from the ligatures was observed. The operation does not remove the focus, but merely prevents the deportation of infectious material from it to other parts of the body. The focus has to be absorbed, and until this is completed there is a possibility that some small collateral route may convey some of the material into the veins and thus at times induce slight temperature. The conditions are much less favorable when the pyemia is of the acute puerperal form. The process in the veins in this case is not so much thrombosis as ulceration of the vein wall, and the germs are much more virulent. In a typical case of the latter kind he performed the same operation, but it had no effect on the temperature and chills. Bumm, however, has been successful in one case of this kind. In the chronic form, in appropriate, carefully selected cases, ligation of the ovarian and hypogastric veins may cure the patient and prove an important progress in the treatment of such cases.

56. Prostatectomy.—Schlesinger's article issues from Israel's surgical service at Berlin. The suprapubic route is preferred there, as the operation is considered simpler, the middle lobes are more easily reached and the danger of consecutive incontinence is regarded as less, while it discloses stones that might be overlooked with the perineal operation. Total enucleation of the prostate was always accompanied by removal of the prostatic urethra, but it is probable that in many instances it might be possible to spare the urethra, especially when the prostate is large and hard. In such cases there seems to be a membrane of connective tissue between the prostate and the urethra. When the condition of the bladder was good, the suprapubic wound was sutured and a permanent catheter left in the bladder for the only drainage. When the urine was infected an external urethrotomy supplemented the suprapubic operation. The perineal wound always healed without a fistula. In the after treatment the patients are soon allowed to be up and about with the permanent catheter, and it is removed after a time, when conditions allow, and merely reinserted once or twice a day, rinsing the bladder afterward, allowing the urine that escapes through the wound above to trickle into the dressings. Out of 12 cases, 3 were partial prostatectomies. In 2 cases the results were excellent, but in the third there was a complicating bladder stone, and there has been retention since. Catheterization was necessary three times a day; the cystitis has now almost entirely healed. Of the other 9, one patient died three months later from pyelitis; nothing is known of a second, who still had incontinence when dismissed. Two cases were complicated with bladder stones and 2 are still under treatment. The other 4 patients urinate normally without disturbances of any kind. Malignant degeneration was evident in one of the total dozen cases.

58. **Spirochetes in Syphilis.**—Siebert examined 125 patients for spirochetes and failed to find the *Spirochæta pallida* in any of the 46 cases of superficial cancer and other affections, while he found it in 52 out of 66 cases of lues. It was not discovered in a case of malignant syphilis, while specimens were extremely numerous in a case of syphilitic rupia. It was never observed in the blood, and it failed to pass through a porcelain filter.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed page 1768.

59 (LXXVIII, Nos. 4-6.) Ueber die Früh-Operation bei akuter Appendicitis. A. Kroglus (Helsingfors).
60 Tuberculous Strictures in Intestine.—Zur pathogenese und Anatomie der auf entzündlicher namentlich tuberkulöser Basis entstandenen Darm-Strikturen, nebst Bemerkungen zur Frage der Darmtuberkulose vornehmlich in der Turkei. Wieting (Constantinople).
61 *Perorale Intubation mit Ueberdrucknarkose (anesthesia under plus atmospheric pressure). F. Kuhn (Cassel).
62 Wirksamkeit des Cholins. A. Exner.
63 Zur Kenntnis der Fractura capitull humeri (eminentiæ capitatæ). H. Lorenz.
64 Zur Frage der Contusions-Exostosen des Oberschenkelknochens (femur). O. Bode.
65 Ueber totale congenitale Luxation der Knie-Gelenke, bei 3 Geschwistern (luxation of knee in 3 brothers and sisters). F. Magnus.
66 Open Treatment of Wounds and Transplantation—Offene Wundbehandlung und Transplantation. O. Bernhard.
67 Zur Behandlung der cicatriciellen Larynx- und Tracheal-Stenose. R. Göbell.
68 Zur Behandlung des Pleuraempyems. A. Martina.
69 Zur Casuistik der tödlichen reflectorischen Anurie beim Menschen nach Nephrektomie wegen einseitiger Nierentuberkulose (fatal reflex anuria after nephrectomy). A. Jenckel.
70 Zur Behandlung der myelogenen Sarkome der langen Röhrenknochen (of long bones). Blecher.
71 Fall von Myxo-Osteochondro-Sarkom der Tibia. O. Seitz.

61. **Intubation per Os for Anesthesia Under Increased Atmospheric Pressure.**—Kuhn describes and illustrates his instruments and apparatus and a number of clinical cases in which he has applied them. The Journal has summarized in these columns from year to year his announcements in regard to his technic for introducing the anesthetic directly into the lungs through a tube, thus avoiding all the nose and throat reflexes. Since Sauerbruch invented his method of operating in the air chamber under negative pressure, Kuhn has applied this principle to his intubation technic, but uses plus instead of minus pressure for the purpose. He relates his experiments on himself and in 5 clinical cases. He regards the chloroform-oxygen anesthesia induced by introducing the anesthetic and oxygen directly into the lungs, as a great advance in surgery.

Münchener med. Wochenschrift, Munich.

72 (LII, No. 40, October 3.) *Ueber Beri-Beri und intestinale Intoxikations-Krankheiten im Malaischen Archipel. H. Dürck.
73 *Action of Natural and Artificial Edema.—Einige Wirkungen des naturlichen Oedems und der künstlichen Oedemisirung. E. Joseph.
74 Pylorospasmus mit Magen-Hypersekretion und Tetanie. Jonnesco. One case.
75 2 Fälle von Malta-Fieber. Roosen-Runge (Hamburg).
76 *Zur Diagnostik der Zwerchfell-Hernie (of diaphragm). A. Herz.
77 2 seltene Fälle von subkutaner Sehnenzerreissung (laceration of tendon). F. Bruning.
78 *Kardiolyse bei adhäsiver Mediastino-Perikarditis. Meyer-Westfeld.
79 Dauer des Kurgebrauches in Karlsbad beim Gallensteinleiden (length of Carlsbad course for gallstones). F. Fink.
80 Zur Praxis der Lokal-Anästhesie. C. Muller.
81 Relations Between "Aggressiveness" and Body Substance of Bacteria.—Beziehungen zwischen Aggressivität und Leibessubstanz von Bakterien. O. Bail. (Concluded.)
82 Restriction of Advertising of Secret Remedies.—Zur Verbot der Ankündigung von Geheimmitteln. C. Becker (Munich). See pharmacology item page 1670.

72. **Research on Beriberi.**—Dürck has been making a special study of tropical pathology in the Dutch East Indies. He remarks in regard to beriberi that although we are still ignorant of the agent causing in such a brief space of time such havoc in the nervous and muscular systems, yet one point seems to be established, namely, that the causal agent can not be a living animal or vegetable organism. Until the veil is lifted further, there seems to be little prospect of a rational and successful method of treatment.

73. **Action of Artificial Edema in Bier's "Passive Congestion" Therapy.**—Joseph remarks that the importance of edema as a prominent factor in inflammation has only recently been realized. In the passive, congestive hyperemia induced by constriction of the limb, the edema that forms is static. He measures the amount of the edema by the displacement of water when the limb is placed in a cylinder of water, before and after the constriction. A float on the surface rises, with the water, along a graduated scale in the side of the cylinder. Each cm. that it rises represents a displacement of 200 c.c. The arm of one patient displaced 1,900 c.c. before constriction and 2,750 c.c. after twenty-two hours, showing an accumulation of 850 c.c. of edema in the arm. After removal of the constricting band and suspension of the arm, the displacement was reduced to 2,300 in three hours, showing that 450 c.c. of fluid had passed out of the arm. The displacement varies during the first few hours after removal of the band, the amount of the edema increasing and subsiding in waves, but never regaining its first extent, and gradually subsiding altogether. The accumulation of fluid stretches the walls of the capillaries and dilutes the toxins. Bacteria are unable to live in solutions of their own toxins, and this is one of the reasons why no bacteria are found alive in fresh edema. Toxins are diluted by the edema to such an extent that they are comparatively harmless for the organism. Another factor in the benefits of artificial edema is that absorption is prevented by the mechanical compression of the vessels by the accumulated fluid, and also by the fact that the parts of the body elsewhere are anemic, owing to the local congestion in the constricted limb. In addition to all these advantages of Bier's method of passive congestive hyperemia in the treatment of acute inflammation and wounds, it has the further point in its favor that the treatment of the lesion can be much simpler and gentler than by other technics. After incision of a phlegmon and application of the constricting bandage to the limb above, part of the accumulating serous secretions finds its way out through the wound. If all escaped this way it would be unnecessary to suspend the limb to promote the subsidence of the edema, but enough pours out through the wound to keep it rinsed with a natural irrigation and rendering tamponing or absorbent dressings superfluous. The frequent and painful manipulations necessary to prevent the union of the edges of the wound in severe infections are spared the patient treated with congestive hyperemia. This leaves the wound in peace, and this peace allows the tender structures to recuperate without injury. Under other conditions they suffer from the changing of dressings and absorbent applications, and are liable to fall a prey to necrosis. In conclusion, he remarks that the artificial edemization is only a single factor in the general effect of artificially induced congestive hyperemia. Bier calls the method "Stauungs-Therapie"; "Stauung" means the stowing away of a cargo in a ship, but it is applied to engorgement of any kind, and hence to passive congestion.

76. **Diagnosis of Hernia of the Diaphragm.**—Herz had occasion to observe a case of hernia of the diaphragm in which the descending colon, especially the splenic flexure, rose during inspiration and sank during expiration. He regards this symptom of paradoxical respiration as important for the differentiation of hernia from eventration of the diaphragm. The patient was a man of 30, always healthy, until two years previously he noticed that he was becoming corpulent, perspired more freely and suffered occasionally from dyspnea on exertion. One day he experienced great dyspnea while walking, and coughed considerably. These symptoms becoming more severe, he entered the hospital, complaining of a sense of oppression in the chest, especially at the lower third of the sternum. The percussion findings are illustrated. Herz differentiates the case as one of congenital hernia of the diaphragm with a large defect. The stomach is in its normal place. Lager found in 266 cases of hernia of the diaphragm in which several organs were involved that the stomach was in the hernia in 161 cases and the colon in 145, while in 53 cases in which only one organ was involved the stomach was implicated in 27, the colon in 13, the small intestine in 6 and the omentum only once.

78. **Cardiolysis in Mediastino-Pericarditis with Adhesion.**—Meyer-Westfeld states that besides Brauer's 3 cases and Beck's 3 there is only one other case on record in which an operation was undertaken for the relief of adhesive mediastino-pericarditis. He here describes an eighth case. The results of surgical intervention have invariably been good, accomplishing much more than could be anticipated from medical measures. In his case, the benefit was apparent in the complete subsidence of the symptoms of general stagnation, in the improvement of the symptoms of pseudo--cirrhosis of the liver, the stronger pulse and blood pressure, the vanishing of the relative insufficiency of the mitral valve, and, above all, in the return of an appreciable reserve force in the myocardium. This success is due only partially to the direct relief of the heart by the operation. This consisted in removal of the ribs covering the heart, resecting the fourth and fifth ribs from their attachment to the sternum to the region of the anterior axillary line. The heart thus released from its bonds rapidly recuperated, and soon threw off the disturbance manifested by the relative mitral insufficiency.

Therapie der Gegenwart, Berlin.

Last indexed page 1529.

83 (XLVI, No. 10, October.) *Conge[illegible] ment of Throat Affections.—Ue[illegible] Halsaffektionen mittels Stauungs[illegible]
84 *Utilization of Sugar in Enemata.-[illegible] klystieren im Körper des Diabetikers. A. Bingel.
85 *Asphyxie (Scheintod) und Tubage. F. Kuhn.
86 Verwendung und Einflüsse des Stickstoffoxydul auf den Organismus (laughing gas). B. Müller.
87 *Zur Prophylaxe und Abortivebehandlung der Gonorrhœ. R. Sondermann.

83. **Treatment of Acute Throat Affections with Bier's "Congestive Hyperemia."**—Hochhaus has treated 36 patients with diphtheria, 12 with ordinary sore throat and 7 with erysipelas by strapping a rubber band around the neck. Unmistakable benefit was derived in every case, he says, most pronounced in the diphtheria cases. Among the typical instances he reports is that of a child of 5 with pains in the neck and croupy cough for twenty-four hours. The tonsils were covered with false membrane. Antitoxin was injected and the strap applied to the neck. The false membrane was thrown off the third day, the child being dismissed completely well by the twelfth day. A young man with the same symptoms was treated with the congestive hyperemia alone and was dismissed cured in a week. In cases of erysipelas the process seemed to be arrested by the rubber band around the neck, and the patients could be dismissed in from three to five days.

84. **Utilization of Sugar Enemata in Diabetes.**—The sugar in an enema vanishes from the fluid in a short time, and it has been supposed that it is absorbed by the intestine. Bingel here presents evidence to show that the vanishing of the sugar can be explained by fermentation processes. Probably very little has been absorbed. In none of his tests could he trace the influence of sugar on the elimination of sugar or of nitrogen.

85. **Intubation in Asphyxia**—Kuhn protests against the application of the term asphyxia—which means arrest of the pulse—to arrest of the respiration. His method of intubation per os for artificial respiration, with introduction of air or oxygen under pressure above that of the atmosphere, has proved in his hands a wonderful technic for resuscitation in cases of apparent death. Dogs continue to breathe tranquilly and normally with both sides of the thorax open when the air is supplied to their lungs under plus pressure, but the moment the supply of air is cut off their lungs collapse and they apparently die. If the stopcock is turned and the air or oxygen is allowed to flow into the lungs once more, they expand at once, and if the heart has not ceased beating entirely the animal promptly revives. In the prevention of chloroform asphyxia, the pulse is an unreliable guide as, when it varies, the trouble is already too far advanced. As a rule, chloroform asphyxia is due to hindrance in the intake of air, and Kuhn thinks that the falling back of the tongue or of the jaw or other mechanical blunder is responsible for the large majority of such cases, and wonders that it does not occur oftener. The intake of air becomes insufficient and gradual carbonic acid gas intoxication results. The respiration is of much more importance than the pulse for the anesthetist. If absolutely free respiration is ensured, the dangers of anesthesia become reduced to the minimum at one stroke. This is ensured, he proclaims, by administering the anesthetic through a tube passing into the upper air passages and extending through the nose or mouth. He is convinced that intubation should be one of the indispensable preliminaries to anesthesia, or at least, that the tube should be at hand, ready for emergencies. It should also be used at once in all cases of arrest of respiration from mechanical or chemical causes. It is easily introduced in an asphyxiated person, and allows immediate artificial respiration with oxygen or not as indicated. In case of drowning, the pelvis should be raised and the head allowed to hang over backward. The tube is introduced through the mouth, and this allows aspirated fluids to escape, while it ensures free respiration as physical measures to induce artificial respiration are instituted. In case of chemical asphyxia, the tube allows the introduction of oxygen, the measure most urgently indicated. Venesection, infusion and massage of the heart are valuable adjuvants. In short, this method of intubation is the alpha and omega of prevention of asphyxia and of resuscitation in cases of apparent death. Kuhn's tube has a shoulder which prevents it from being bitten by the teeth and also prevents it from slipping in too far. See also 61 above.

87. **Prevention and Treatment of Gonorrhea.**—Sondermann applies aspiration to the urethra, followed by rinsing, and has found the combination remarkably effectual in preventing and curing infection. The cannula is perforated; it screws into the center of a rounding skeleton frame a little wider and longer. The top of the cannula is connected with a suction pump on the right and with a jar of water or some medicated fluid on the left. When the stopcock between the jar and the cannula is closed and the suction bulb squeezed, air is aspirated through the cannula out of the urethra and hyperemia is induced, while all the secretions are drawn away and the remotest crevices cleansed. By turning the stopcock, water flows into the urethra and is aspirated out by the pump, thus producing a constant outward flow. He gives an illustration of the simple combination of cannula, skeleton frame, the two jars and the rubber bulb. It has demonstrated its efficacy in prophylaxis of gonorrhea and also in aborting early cases, and it has even effected a cure in one chronic case in his experience.

Wiener klinische Wochenschrift.

Last indexed page 1699.

88 (XVIII, No. 31.) *Liver in Protection Against Poisons.—Ueber die entgiftende Funktion der Leber. C. J. Rothberger.
89 Ueber Spirochätenbefunde im syphilitischen Gewebe. L. Spitzer.
90 *Weitere Beiträge zur Radiometrie. L. Freund and M. Oppenheim.
91 (No. 32.) *Beitrag zur Kenntnis der Herz Dilatation (of heart). A. Selig.
92 *Zur Radium Behandlung des Skleroms. O. Kahler.
93 (No. 33.) *Einfluss der Röntgenstrahlen auf den Verlauf der Leukämie (mit besonderer Berücksichtigung der Blutbefunde). M. Franke.

94 Zur Kasuistik der multiplen primären Karzinome. J. Richter.
95 Ueber Cytodiagnostik des Kolostrums. E. Zuckerkandl.
96 *Zur Behandlung interstitieller Erkrankungen. Fälle von Tabes dorsalis und Myelitis chronica, mit Keratin behandelt. S. M. Zypkin. (Commenced in No. 32.)

88. **Protecting Action of Liver.**—In Rothberger's experiments on dogs, the animals remained in good health after the liver had been excluded from the circulation by tying off the portal vein. This occurred even when the animals were fed exclusively on meat. Experiences like these shake the foundations of the theory that the liver is the main agent in protecting the organism against toxins from the intestine. If the poisons generated in the intestine do not affect the general organism, he says, we have not the liver to thank for this as much as has been previously supposed. The walls of the intestine probably do not allow the poisons to pass through them.

90. **Radiometry.**—Freund and Oppenheim assert that the chemical appliances which measure the penetrating power of the Roentgen rays behave differently under varying temperatures. All tests to determine the chemical efficiency of the Roentgen rays, therefore, should be made at a standard room temperature, to enable the results to be compared. A temperature of 18 C. (65 F.) they suggest as a good standard. They further assert that biologic effect of the rays does not always parallel the findings of the radiochromometers.

91. **Dilatation of the Heart.**—Selig has been studying the effect of climbing stairs as a test of 40 patients with dilatation of the heart. Comparison of the findings showed that neither the blood pressure nor the pulse rate afforded such accurate information in regard to the functional capacity of the heart as the general aspect of fatigue. The appearance of *exhaustion is more conclusive than any symptom. He was surprised to find so many of his patients still capable of considerable* exertion without exhaustion, especially those who would be classed as cases of "congestion" dilatation. He believes that there must be another kind of dilatation besides that due to distension from defective contraction and that due to distension from over-supply of blood. The patients with dilatation who yet are capable of considerable effort without exhaustion must belong to this other category. He examined four football players after hard games and found that the blood pressure had dropped from 20 to 45 mm. mercury, and that the pulse had increased by 21 beats, while the apex beat had changed its location by 1.5 cm. in two of the players, and three had considerable albuminuria. None was cyanotic or exhausted, and yet Selig accepts the symptoms described as signs of incipient heart incapacity. Similar symptoms are observed in cases of valvular defect and arteriosclerosis after exertion, but in this case the patients all appear exhausted after exertion.

92. **Radium Treatment.**—Kahler gives illustrations of a case in which great improvement was obtained by combining exposures to radium with the usual measures. The accessible parts were treated with Roentgen rays, while the interior of the nose healed under the radium rays.

93. **Influence of Roentgen Rays on Course of Leukemia.**—Franke reports the details of 4 cases of leukemia treated by Roentgen exposures of the spleen alone. The results were strikingly beneficial, but not enduring. It is impossible to speak of a cure, but the results surpass anything ever realized before, so that Roentgen treatment should be instituted, he thinks, as a routine procedure in all cases of myeloid as well as lymphoid leukemia. He ascribes the improvement observed to the destruction by the rays of the leucocytogenetic tissue in the spleen. This destruction is followed by a reduction in the number of leucocytes in the blood and in the size of the spleen.

96. **Keratin in Treatment of Interstitial Affections.**—Zypkin became impressed with the possibilities of keratin in therapeutics *during the course of some experiments on mice in* regard to the synthesis of albumin bodies out of albuminoids. He used keratin and glutin principally in his experiments, and found that keratin seemed to prevent the proliferation of connective tissue which was observed in the course of his research in the animals not ingesting keratin. He describes various premises which led him to the conclusion that the animal organism has the faculty of synthetically binding keratin with glutin (the main constituent of connective tissue), and hence that keratin might prove effectual in the clinic in treatment of interstitial affections of various parenchymatous organs. He has applied this treatment in 4 cases, commencing with chronic affections of the central nervous system, as the slightest variation in the intensity of the pathologic anatomic process becomes clinically manifest in such cases much more perceptibly than in interstitial affections of other organs. The results answered his expectations. Three tabetics and one patient with chronic myelitis took ten or more keratin tablets a day for several months, and the improvement was actually striking in some and marked in all. *He explains the benefit as due to the binding of the glutin in* the connective tissue by the keratin, which permits the reabsorption of the new-formed connective tissue. The idea that keratin is not dissolved in time in the stomach is a mistaken one, he says. In conclusion, he remarks that many infectious diseases are accompanied by extensive parenchymatous changes in the internal organs, and yet the organs regain normal functional capacity afterward. This is due to the regeneration of the parenchymatous cells which proceeds unhindered. If the infectious agent has induced proliferation of the interstitial stroma in the organ, the infectious disease leaves behind it a stationary or progressive affection of the organ. The regeneration of the parenchymatous cells is prevented by compression from the proliferating interstitial tissue. It is especially in such cases that keratin may prove extremely useful, putting a stop to the proliferation of the connective tissue, improving certain symptoms and checking the further progress of the affection or curing it completely in time.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Practitioners' Visiting List (Heretofore known as the Medical News Visiting List) for 1906. A pocket-sized book, containing memoranda and data important for every physician, and ruled blanks for recording details of practice. The weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and calendar for two years, $1.25. Lea Brothers & Co., Philadelphia, 1905.

A Quarterly Digest of Advances, Dis- in the Medical and Surgical Sciences.)., assisted by H. R. M. Landis, M.D., vol. IV. December, 1905. Diseases of the Digestive Tract and Allied Organs: Liver, Pancreas and Peritoneum—Anesthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities and Orthopedics—Genito-Urinary Diseases—Diseases of the Kidneys—Practical Therapeutic Referendum. Paper. Pp. 367. Price, $6.00 per annum. Philadelphia: Lea Brothers & Co., 1905.

Baby Incubators. A Clinical Study of the Premature Infant, with Especial Reference to Incubator Institutions Conducted for Show Purposes, by J. Zahorsky, A.B., M.D. Reprinted from a series of Articles in the St. Louis Courier of Medicine, 1905. Cloth. Pp. 135. Price, $1.00 net. St. Louis, Mo.; Courier of Medicine Co., 1905.

Lectures on Autointoxication in Disease, or Self-Poisoning of the Individual, by Ch. Bouchard. Preface and New Chapters Added by T. Olive Second Edition. Cloth. Pp.342. Price, : F. A. Davis & Co., 1905.

Contribution L'Etude de la Funiculite Lympho-toxique dans les Pays Chauds. By Dr. R. Menocal. Professor de clinique chirurgicale à la Faculté de Médecine de la Havane. Paper. Pp. 28. Havana, Cuba: M. Ruiz y Ca., 18 rue Obispo, 1905.

Measurements of Twins. By E. L. Thorndike. Archives of Philosophy, Psychology and Scientific Methods. Edited by J. McK. Cattell and F. J. E. Woodbridge. No. 11. September, 1905. Paper. Pp. 64. New York: The Science Press.

Professional Education. United States Bureau of Education. Chapter from the Report of the Commissioner of Education for 1904. Advance Sheets. Chapter XXVII. Paper. Washington: Government Printing Office, 1905.

Medical and Surgical Reports of the Boston City Hospital. Fifteenth Series. Edited by H. L. Burrell, M.D., W. T. Councilman, M.D., and C. F. Withington, M.D. Paper. Pp. 242. Boston: Published by the Trustees, 1905.

Anatomischer Atlas Röntgenbildern. 1. Normale Anatome. 1. und Gelenke. By Dr. Ernst Sommer. Mit A Stuber's Verlag (C. Kakitsch), 1906.

Saunders' Catalogue of Medical and Surgical Books. Illustrated. Revised, November 1905. Paper. Pp. 80. Philadelphia: W. B. Saunders & Co., 1905.

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Original Articles

THE ELIMINATION OF CHLORIDS IN NEPHRITIS.

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CHICAGO.

Widal and Javal[1] recently called attention to the inability of many nephritics to eliminate sodium chlorid in a normal manner. The salt retained in the tissues required a certain amount of water to maintain it in the proper molecular concentration, thus leading to edema; they offer this as the probable cause of dropsy in nephritis. This chlorid retention was found chiefly in acute and chronic parenchymatous nephritis, and especially in patients who were edematous. This retention was not found in the interstitial form, and we know that when edema develops in these cases it is usually of cardiac origin. They, furthermore, decided that the impermeability of the kidney to urea and salts did not necessarily go hand in hand, as in the terminal period of Bright's disease there may be marked retention of chlorids, but none of urea, phosphates or sulphates. They report a case of uremia, with daily elimination of 28 grams of urea, but only 0.39 grams of sodium chlorid. For this reason they consider the chlorid elimination as a better index of the functioning power of the kidney than the excretion of urea, and that the unfavorable progress of a case is associated with reduced chlorid elimination. With the chlorid retention there is increased elimination of sulphates and phosphates, and as the chlorids increase these salts diminish.

Only small amounts of sodium chlorid are essential for the animal economy. According to Bunge, a person on a mixed diet requires daily 1 to 2 grams; most people, however, consume 10 to 20 grams. The excess of chlorid is eliminated chiefly through the kidneys. The normal feces contain less than a gram daily, but as a result of diarrhea this may be increased to 4 or 5 grams. The skin eliminates on an average 1,000 c.c. of sweat containing 1 to 2 grams of sodium chlorid. The total daily elimination may, of course, be greatly increased by sweating, and some recent results point to increased sodium chlorid in the perspiration of patients with chlorid retention. In diseases associated with polyuria, as diabetes insipidus or interstitial nephritis, the sodium chlorid intake and excretion may be greatly increased, often reaching 25 to 30 grams daily.

The view is generally held that when a large excess of sodium chlorid is administered to a healthy person this rapidly appears in the urine, the maximum excretion occurring three to four hours after ingestion. Since the work of Widal, further study has been made[2] of the normal kidney and it has been found that the daily elimination of sodium chlorid suffers wide daily variation without any apparent cause. Koziczkowsky found on a fixed diet the daily elimination varied from 9.9 to 23.7 grams in one case and from 6.8 to 14.4 grams in another. He gave people with apparently healthy kidneys an additional 10 grams of sodium chlorid daily for three successive days, having previously estimated the daily output, and reports a chlorid retention of from 18 to 25 grams.

Patients with acute or chronic parenchymatous nephritis, when given, in addition to their usual diet, ten grams of salt, show only moderately increased chlorid in the urine. Except in very severe cases, the amount of urine is increased. When this increased ingestion of salt is continued for several days, the patients gain in weight due to the developing edema, the amount of albumin in the urine is increased, headache, nausea and stupor may develop; in short, a condition resembling uremia. Widal and Javal were able to make the edema appear and disappear at will by increasing or withdrawing the chlorids. The weight of one patient fluctuated from 56 to 60 kilos. The edema rapidly disappeared when the patient was placed either on a milk diet or on meat, bread and potatoes. The addition of ten grams of salt to either diet interfered with improvement. During the disappearance of the edema the daily amount of chlorids eliminated exceeded the intake 3.3 grams. The amount of albumin also decreased from 15 to 3.38 grams daily. When ten grams of salt was added to the milk daily, the urine decreased in amount and the daily retention of chlorids was 4.57 grams, the patient increasing 2.1 kilos in weight, the albumin increasing from 2.4 to 12.12 grams. The patient was then placed on a diet containing 400 grams of meat with bread and 2,500 c.c. of fluids. Within eleven days the weight decreased 3.7 kilos and the albumin had fallen to 0.72 grams daily, the edema reappearing when the salt was added to the diet. Numerous investigators have verified the above results. Koziczkowsky reports marked increase in the amount of chlorid in the various organs of patients with uremia. Courmont,[3] in three cases of acute or subacute nephritis, injected subcutaneously normal salt solution. After the second day the urine became scant, and two of the patients developed uremia. Nagelschmidt[4] produced an artificial nephritis in dogs and demonstrated chlorid retention with increase of salt in the blood. Castaigne[5] demonstrated that in animals with nephritis moderate amounts of sodium chlorid would double or triple the amount of albumin. He also reports that in patients with nephritis, without albuminuria, after the administration of salt, albumin appeared in the urine.

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[1] Widal and Javal: Presse Médicale, 41, 1903.

[2] Only a few references are appended. A complete bibliography may be found in *Centralblatt f. innere Medizin*, 1905, No. 1. Most of the articles on the subject in foreign journals have been repeatedly summarized in the Foreign Current Literature Department of The Journal. Acherd: "Retention des chlorures et pathogenie de l'oedem," Soc. Méd. des Hôp. de Paris, July 31, 1903. "Hyperchloruration et déchloruration," ibid, Nov. 20, 1903. Achard and Loeper: "Rétention des chlorures dans les néphrites." Soc. Méd. des Hôp. de Paris, May, 1903. Chauffard: Soc. Méd. des Hôp., Paris, June 3, 1904. Illyes und Kövesi: Berlin. klin. Wochft., 1902; 1904, Nos. 24, 25 and 26. Strauss: Zeitft. für klin. Med., vol. xlvii.

[3] Courmont: Lyon Médical, *ci*, 1903.

Kovesi has recently verified Widal's results and given some interesting additional information. Patients with chlorid retention increased in weight and became more edematous after ingestion of excessive amounts of salt, although the fluids taken during this time were not increased and the daily amount of urine not diminished. It must be that the elimination of water by other channels has been lessened. There was no increase in the liquids passed in the stool and there only remain the skin and lungs. He believes as a result of chlorid retention there is a lessening of the invisible perspiration. The amount of evaporation which takes place from the surface of the body is dependent not only on the moisture and temperature of the surrounding air, but also on the molecular concentration of the body fluids. The higher the osmotic pressure the less water is given up.

Soon after Widal's communication I began investigating the subject. The cases for study were obtained chiefly from the wards of Cook County and the Presbyterian hospitals. While no attempt was made to determine the exact intake of salt, the patients were kept on a fairly uniform diet during the period of investigation. In some cases this was milk only; in others, the light ward diet. The chlorids were estimated by the Volhard method. When possible, the patients were weighed daily. The sodium chlorid was administered at first in wafers, but, as this often produced nausea, it was later given in solution. The following method was pursued: The chlorids were estimated daily for nine consecutive days. The first three days the patient had merely the chlorids contained in his food; the following three days he received daily an additional ten grams; then the three following days merely the chlorids in his food.

In the accompanying table the total urine for each of the three-day periods is noted, the total chlorid in each period, the grams of chlorid retained at the end of the period when extra salt was given and the percentage of it in the urine during each period. During the second period ten grams of salt were administered daily, except in the cases indicated by an asterisk, where only five grams were given.

Two cases of acute nephritis were examined: one postdiphtheric with blood, epithelial and granular casts, but only a trace of albumin. There were marked uremic symptoms and moderate edema. The other was of six weeks' duration, the urine containing a large amount of albumin, many granular and epithelial casts, very slight edema. These patients were kept on an exclusive milk diet, consisting of 1,000 c.c. of milk and 250 c.c. of cream. One patient had a chlorid retention of 10.7, the other 24.8. In both there was a visible increase in the edema. One patient was weighed, gaining three pounds during the period, when extra chlorid was given, and losing it quickly after the salt was discontinued. In one case less urine was passed during the period of extra chlorid than in the preceding or following period. The percentage of chlorid in the urine was increased following the administration of the salt.

Case.		Urine, three-day periods, c.c.	Chlorids. gms.	Retained chlorids, gms.	Gms. chlorids per liter.
1. Acute nephritis, moderate edema.	1	1680	13.58	....	8
	2	2050	18.14	25.44	8.9
	3	2190	15.41	....	7.01
2. Acute nephritis, marked edema	1	6950	31.8	....	4.6
	2	6300	36.14	*10.66	5.7
	3	7500	19.5	....	1.6
3. Chronic Parenchymatous nephritis; marked edema; myocarditis	1	1150	1.	....	.86
	2	970	1.86	29.14	1.91
	3	2380	2.32	....	.97
4. Chronic parenchymatous nephritis; marked edema...	1	4050	20.	....	4.9
	2	4100	35.07	14.93	8.5
	3	3360	18.52	....	5.6
5. Chronic parenchymatous nephritis; marked edema....	1	5090	17.55	....	3.4
	2	5300	38.64	8.91	7.1
	3	7440	31.66	....	4.2
6. Chronic parenchymatous nephritis; slight edema....	1	3500	30.	....	8.5
	2	3800	40.	20.	10.5
	3	3725	29.25	....	7.8
7. Chronic parenchymatous nephritis; marked edema...	1	4600	28.06	....	6.1
	2	3800	24.96	33.1	6.5
	3	2950	20.51	....	7.0
8. Chronic parenchymatous nephritis, probable secondary contracted kidney; no edema.	1	4050	33.30	....	8.2
	2	5580	55.	*6.7†	9.8
	3	4270	21.75	....	5.1
9. Chronic parenchymatous nephritis; no edema........	1	6950	31.8	....	4.6
	2	6300	36.14	*10.60	5.7
	3	7500	10.5	....	2.6
10. Normal	1	2340	37.41	....	7.
	2	5970	44.75	22.66	7.5
	3	5040	37.45	....	7.4
11. Normal	1	6870	48.8	....	7.1
	2	9120	67.4	11.4	7.3
	3	7090	56.4	....	7.9
12. Normal	1	7580	37.62	....	4.9
	2	7780	54.7	12.92	7.0
	3	5520	44.4	....	8.0
13. Normal	1	3000	42.84	....	14.28
	2	4000	49.26	23.6	12.3
	3	3300	36.76	....	11.1
14. Myocarditis; general edema.	1	3906	24.	....	6.1
	2	9840	78.	24†	7.9
	3	2108	13.	....	6.1

* Patients received five grams extra chlorid daily.
† Eliminate in excess of chlorids ingested.

Seven patients with chronic parenchymatous nephritis were examined. Six had more or less edema. The patient without edema had probably a secondary contracted kidney. The six patients with edema all had a chlorid retention varying from 8.9 to 29.24 grams during the three days of extra salt. The secondary contracted kidney eliminated 6.7 grams more chlorid than was ingested. In two cases the urine decreased in amount during the period of extra chlorid. Two patients showed marked increase in the edema and both complained of increased headache and stupor. One patient was taking Basham's mixture. A later test was made, with patient taking two grams of diuretin daily, with much better chlorid elimination. The patient with the least chlorid retention died; the one with the greatest retention left the hospital much improved. In two cases with marked edema the albumin was estimated by the Purdy method and the effect observed of potassium acetate, potassium neutral phosphate and theocin on the chlorids and albumin. The results were practically identical in the two cases. During the period of extra chlorid the albumin was decidedly increased. None of the remedies used increased the elimination of chlorid.

Two patients with uremia were examined. Both of these died before the tests were completed, so do not appear in the table. In both cases the urine was scant and the daily amount of chlorids less than two grams. Following the administration of salt, the urine was lessened, one case from 500 to 240 c.c., and scarcely any of the extra chlorid appeared. The edema was decidedly increased and the patient's condition worse.

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[4] Nagelschmidt: Zeitft. für klin. Med., vol. 42.

[5] Castaigne and Rathery: Arch. de Méd. expér. et d'anat. path., vol. xv, 1903.

A patient with myocarditis, having fluid in the pleural, pericardial and abdominal cavities, showed marked increase in the daily urine following the administration of chlorids, and excreted 24 grams, or 8 grams daily more chlorid than was ingested. This patient showed actual improvement, which continued after the chlorid was discontinued. This might be considered an increased activity of the kidney due to the ingestion of large amounts of chlorid, analogous to the results of Claude, who found increased elimination of urea following the use of chlorids, or the results of Roque and Lemoine, who found increased activity of kidney to the phloridzin test after the use of common salt. In a single case of this sort, however, no conclusion should be drawn. While we are unable to disprove that excessive sodium chlorid stimulates kidney activity in certain cases, it appears doubtful, especially when we consider its action on the healthy kidney.

Four patients without apparent heart or kidney trouble were tested. All these showed a degree of chlorid retention almost, if not quite, equal to the nephritics. This difference might be mentioned in two, viz., the retained chlorid was eliminated within 48 hours after its discontinuance, while in nephritics it took place more gradually. In each case the administration of chlorids caused a marked increase in the amount of urine. Following the ingestion of the salt, the percentage of chlorids in the urine was increased, not, however, to such a degree as in the nephritics. No edema resulted. Assuming that the salt was absorbed from the intestinal tract, it must have remained in the tissues associated with sufficient water to maintain the proper dilution. In other words, these patients had an undemonstrable edema. The tissues of the nephritics were already water-logged so that any increase in edema was readily observed. In support of this view one of the patients was weighed daily and showed an increase in weight of 2¼ pounds following the administration of the chlorids. Novecourt and Vitry's experiments on nurslings is corroborative of this view. They administered daily for a period of seven days 0.25 to 1 gram of sodium chlorid, and found a greater increase in weight than for the same period on the same amount of food, but without the additional chlorid. They believe this is due to improved nutrition, but it is probably the result of water retention.

A summing up of the evidence would indicate that the chlorid retention in moderately severe nephritis is not greater than in the normal kidney. The terminal stages of nephritis, however, are characterized by very marked impermeability of the kidney to sodium chlorid. This difference, however, exists: in nephritics there is a visible increase in the edema, in the healthy individual there is no detectable edema. It is not necessarily true that a chlorid retention, after moderate excess of salt, exists in every healthy individual, but reports from various writers indicate that such is the rule.

Another phase of the question, and it would seem a much more important one, is the increase in the albuminuria and development of uremia symptoms following excessive chlorid ingestion. The view that the so-called uremia of nephritis is, in reality, a chloremia has little support. It appears that the increased cerebral edema is the more probable explanation. From a therapeutic standpoint, whatever the final decision regarding the impermeability of the nephritic kidney to chlorid, there is no doubt that excessive salt should be avoided, as it causes not only water retention, but by increasing the osmotic pressure of the blood lessens perspiration and the amount of water lost by respiration. Two grams of sodium chlorid daily are sufficient for the animal economy. Milk contains from 1.2 to 1.7 grams per liter; 100 grams of bread, on an average 1.3 grams; 1,000 grams of beef, 1.15 grams. Widal reports disappearance of edema and general improvement on a diet consisting of meat, 400 grams; potatoes, 1,000 grams; sugar, 100 grams; butter (unsalted), 80 grams; fluids, 2,500 c.c. This diet contains only 1.5 grams of chlorid. Especially to be avoided are the soups and broths, as they contain large amounts of salt, the broths at the Cook County Hospital containing 11.3 grams per liter, and many patients drink 500 c.c. of this daily. The use of subcutaneous injections of salt is contraindicated, as it may favor the development of uremia. I do not believe that the degree of chlorid retention is necessarily an index of the extent of kidney incompetency. Two cases of nephritis with a mild degree of retention died, while the patient with the highest degree of retention left the hospital much improved.

CONCLUSIONS.

In patients with moderately severe nephritis associated with edema, the ingestion of large amounts of sodium chlorid is followed by a chlorid retention. The patient gains in weight, the edema becomes more marked, the albuminuria increases and symptoms may develop resembling uremia.

In patients with severe nephritis, and especially those with uremia, chlorid retention is very marked, as scarcely any of the extra chlorids administered are eliminated.

In individuals with apparently healthy kidneys, following the ingestion of sodium chlorid, there is a chlorid retention equal to that of mild nephritis. The individual gains in weight, but there is no visible edema, no albuminuria and no uremic symptoms appear.

THE PHARMACOLOGY OF DIETHYLOXYACETYL UREA.*

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Some weeks ago my attention was called to a new group of chemical bodies belonging to the methane series. According to A. H. C. Heitmann and Erik Clemmensen, the discoverers, they are condensation products of urea and the various oxyacetic acids. A consideration of the chemical structure of these compounds led to the belief that all would possess considerable hypnotic power, but the ethyl compound was thought to be the more promising for therapeutic purposes. The originators accordingly prepared and placed at my disposal sufficient quantities of the ethyl derivative in its pure state, and a little later its sodium salt, to undertake a series of animal experiments to demonstrate its pharmacologic properties.

Perhaps the most desirable chemical name that can be given to the compound, as indicating its structure, is the one mentioned in the title of the paper, diethyloxyacetyl urea. The chemical formula is given by

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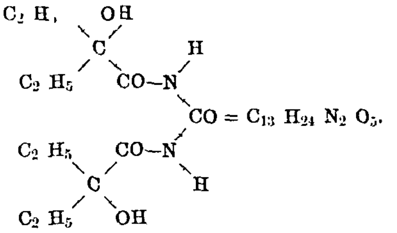
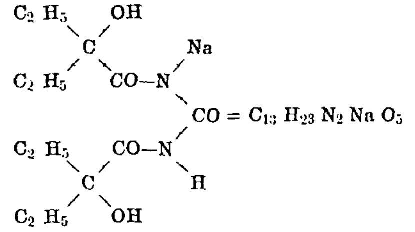
* Read before the central branch of the Am. Physiological Society, March 29, 1905, at Chicago.

Clemmensen and Heitmann as $C_{13}H_{24}N_2O_5$, with the following structural formula:

1. Diethyloxyacetyl urea[1]:



2. The sodium salt of diethyloxyacetyl urea:



A great deal of attention has been given by pharmacologists to the relation between chemical structure and physiologic action, with the result that one may predict beforehand in many instances, with a greater or less degree of certainty, the effects that will be produced on animals by the administration of chemical substances with definite structural formulæ. Schmiedeberg, considering the formula of urea $CO\genfrac{}{}{0pt}{}{\diagup NH_2}{\diagdown NH_2}$, concluded that by replacing one of the amidogen groups with an ethyl alcohol radical the resulting compound $CO\genfrac{}{}{0pt}{}{\diagup NH_2}{\diagdown C_2HO_5}$ would possess the desired hypnotic action.

The ethyl group would depress the cerebral centers, while the amidogen group, by its stimulating action, would correct a too pronounced depression of the respiratory and other important medullary centers. This compound Schmiedeberg called urethane. Tests of it on rabbits showed it to be almost an ideal hypnotic, but, when administered to human beings, it was found to require very large doses, and even then was not certain in its effects. Apparently, the stimulating effect of the amidogen group was too great or the depressant effect of the alcohol group too slight for the changed relations between the size of the cerebral substance and that of the lower portions of the central nervous system of the human being as compared with the rabbit. Computing the amount of C_2H_5 and the nitrogen in urethane, we find that they constitute 31 per cent. and 15 per cent., respectively, of its molecular weight. Emil Fischer and J. v. Mering[2] called attention to urea compounds of the fatty-acid series, and proposed diethylmalonyl urea as a hypnotic. This compound contains 31.5 per cent. C_2H_5 and 12.5 per cent. nitrogen, very nearly the same percentages as are found in urethane. Computing the percentage of C_2H_5 (the ethyl radicals) and nitrogen in the above formula for the diethyloxyacetyl urea, we find it amounts to 40 per cent. and 9.6 per cent., respectively, there being a considerable increase in the percentage of the ethyl radicals and a decrease in the percentage of the nitrogen as compared with urethane. Hence the supposition that it would be more active as an hypnotic than urethane, possibly containing just the right percentage of the depressing alcohol radicals and the stimulating nitrogen compounds to produce as desirable hypnotic action for higher animals and human beings with their relatively large amount of cerebral substance as urethane for rabbits with their comparatively small amount of cerebral substance. While predictions of this kind have often been wofully misleading, further experiments and clinical trials show that the reasoning in the above comparison is worthy of serious consideration.

The diethyloxyacetyl urea is a clear, transparent, slightly soluble, oily liquid, sp. gr. 1.1107, with a peculiar characteristic etherial odor and taste. It is soluble in about twenty parts of water, and is quite soluble in most of the organic solvents, e. g., in alcohol, ether, chloroform, etc. The sodium salt forms beautiful flakelike crystals, which are very soluble in water and have a mild peculiar taste. This latter compound contains 11 per cent. of sodium, and on account of its great solubility, promises to be of more importance than the mother compound. Experiments show that both act in essentially the same manner, but the time has been too short and the supply of the drug too limited to fully complete the investigations. Consequently, this communication should be regarded as a preliminary report to be followed later by a more comprehensive paper dealing with the whole group of urids of the group of oxyacetic compounds.

As Clemmensen and Heitmann are now preparing an exhaustive chemical paper on the subject, I shall not take up the method of preparing these bodies or discuss their chemical relations, but will simply state that they are condensation products of urea and the various oxyacetic acids.

ANTISEPTIC AND GERMICIDAL PROPERTIES.

A series of culture tests, employing *B. pyocyaneus* as a test organism, showed that the drug and its sodium salt possess very slight antiseptic and germicidal properties.

TOXICITY.

Several series of experiments using frogs and guinea-pigs showed that the compound is but very slightly toxic. The minimum fatal dose for frogs, when the substance was injected into the abdominal lymph sac in physiologic salt solution, was 0.005 to 0.006 per gram body weight (Table 1.); for guinea-pigs when administered subcutaneously, 0.8 per kilogram body weight; and for guinea-pig per stomach, 0.8 per kilogram body weight (Table 2). The series of experiments were repeated several times. The tables are typical of the detailed results obtained when the substance was administered in the several ways mentioned.

TABLE 1.—Sodium Salt of Diethyloxyacetyl Urea. Toxic Dose for Frogs when Injected into Abdominal Lymph Sac.

Number.	Weight.	Dose per Gm.	Result.
1	27	.004	Lived.
2	35	.005	Lived.
3	17	.005	Lived.
4	37	.005	Lived.
5	31	.005	Died.
6	25.5	.006	Died.
7	18.5	.006	Died.
8	19	.006	Died.
9	23	.006	Alive.
10	34.5	.007	Died.
11	28.5	.008	Died.
12	37	.009	Died.
13	34	.010	Died.

Minimum fatal dose per gram body weight .006.

In a similar manner the toxic dose for the mother compound was found to be .005 per gram body weight.

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[1] I shall hereafter call this "the drug," as we have no short name for it. Since the paper was written the name Hypnotal has been provisionally adopted.

[2] Die Therapie der gegenwart, March, 1903.

Frogs.—A series of frogs were injected with small quantities of the drug in the abdominal lymph sac. Very promptly the hypnotic action of the drug was shown, the animals becoming very sluggish, the head falling to the bottom of the cage, but they could be aroused by pinching the toes, when reasonable quantities of the drug had been employed.

Gold Fish.—Small gold fish were immersed in solutions of the drug in well-aërated river water, and it was found that their movements became more and more sluggish, until at the end of about fifteen minutes they would float to the surface. In most instances the fish did not show a stage of excitement, as so often occurs when chloral and similar chemicals are used. After a time all respiratory movements of the gills ceased, but, if the fish were placed in fresh water before the entire cessation of respiratory movements, complete recovery occurred in an hour or two. Recovery was hastened if the fish were placed for a few minutes in a dilute salt solution, and then in the aërated river water.

TABLE 2.—Diethyloxyacetyl Urea. Toxicity for Guinea-Pigs when Administered per Stomach.

Number.	Weight. Average.	Dose per Kilo.	Per Cent. Sol.	Result.
1.	500 gms.	0.5	10	Lived.
2.	500 "	0.6	10	Lived.
3.	500 "	0.6	10	Lived.
4.	500 "	0.7	10	Lived.
5.	500 "	0.7	10	Lived.
6.	500 "	0.7	10	Lived.
7.	500 "	0.8	10	Died.
8.	500 "	0.8	10	Died.
9.	500 "	0.9	10	Died.
10.	500 "	1	10	Died.
11.	500 "	1.2	10	Died.

Minimum fatal dose per kilo 0.8 grams.
The toxicity was found to be substantially the same when the drug was given subcutaneously.

Rats.—A number of gray rats were caught in the stables, and, as they were very wild, were considered desirable subjects for experimentation. Accordingly, a series of them were injected subcutaneously with various doses of the drug, and within a very short time the animals lost their ferociousness, and were soon sleeping quietly in the bottom of the cage. Here again it was possible to arouse them without any great difficulty, but as soon as they were allowed to remain quiet they quickly went to sleep again. The following day they were found as untamable as in their natural condition. They were then destroyed by the use of illuminating gas, and post-mortem examination showed but little irritation at the point of injection.

Guinea-Pigs.—A large number of these animals, weighing from 480 to 500 gms., received the drug subcutaneously and per stomach. They were found to be less susceptible to the hypnotic influence of the drug than rats, dogs or frogs. The animals occasionally, when large doses were given, showed a period of excitement similar to that produced by chloroform, ether, etc., and only became unconscious when very large doses were administered. In a number of instances the animals were destroyed with illuminating gas, and evidence of inflammation searched for at the point of injection. Here, again, as in the case of the rats, very slight reaction had occurred.

GENERAL ACTION ON TEMPERATURE, RESPIRATION AND PULSE.

A series of twenty dogs of different weight and breed were used for the purpose of determining the general action of the drug when administered to the animals in various ways: per stomach, per rectum, subcutaneously, intraperitoneally and intravenously. All the experiments showed conclusively that the compound possesses decided hypnotic properties, that in reasonable doses it did not have much influence on temperature, respiration and pulse. Table 3 is typical of the results obtained, indicating in detail the action of the drug on one of these animals. One characteristic of the action of the drug, which was always particularly notable, was the ease with which the animals could be awakened even when very deeply asleep, and, when so aroused, they readily partook of food and drink and the excretory

TABLE 3.—Sodium Salt of Diethyloxyacetyl Urea. Experiment 16. March, 22, 1905. Dog. Weight 14 K.

Time.	Temperature.	Respiration Rate.	Pulse rate.	Remarks.
1 p. m.	103.	16	114	Normal.
1:30 "	102.8	14	110	Normal.
2:00 "	. . .	. .	. .	2.8 c c.; 50 per cent. of the sodium salt of diethyloxyacetal urea in gelatin capsule per stomach.
2:30 "	102.4	18	124	Drowsy.
3:30 "	103.3	17	120	Sleeping soundly but can be readily awakened.
4:30 "	101.9	16	108	Sleeping soundly but can be readily awakened.
5:30 "	102.	16	110	Awake, but still remains drowsy. Can walk readily without incoördination.
				March 23.
8:30 a.m.	101.8	18	100	Playful. Ate and drank during night. Defecated and urinated.
9:00 "	. . .	.	.	5.6 c.c. 50 per cent. sol of the drug given as before.
10:00 "	101.1	16	100	Becoming drowsy. Defecated.
12:00 "	101.3	18	106	Sleeping soundly, awakened with some difficulty.
1:00 p.m.	100.8	17	104	Sleeping soundly. Walks without difficulty when aroused, but goes to sleep at once when undisturbed.
3:00 "	100.8	18	90	Sleeping soundly.
4:00 "	101.	18	88	Sleeping, but awoke when disturbed, and walked about without difficulty.
6.00 "	100.6	16	90	Sleeping but was awakened and put in cage for the night. Ate and drank before going to sleep again.
				March 24.
8:30 a.m.	. . .	. .	. .	Sleepy, but when aroused ate and drank readily. Defecated during night.
9.00 "	102.	18	85	Sleeping, but can be easily aroused.
10.00 "	102.2	16	80	Given 9.4 c.c. 50 per cent. solution of the sodium salt of the drug as before.
11:30 "	101.	16	80	Sleeping, but can be readily awakened.
1:30 p m.	102.6	20	80	Sleeping. Awakes readily when disturbed, but shows [illegible]
4:30 "	100.4	16	104	Sleeping [illegible] and walks to his c[illegible]
1:00 a.m.	100.5	12	76	Sleeping, but could be awakened readily. Eats and drinks.
				March 27.
				This dog is alive and well.

TABLE 4.

Experiment 15. March 4, 1905. Dog. Weight, 15 k. Anesthetized with chloretone and morphin. Thorax opened. Artificial respiration.

Record showing amplitude of heart contractions taken from the right ventricle by means of Roy & Adami's myocardiograph. Pulse rate and blood pressure record taken from carotid artery by the usual manometer kymograph at the same time as the myocardiogram was made. This experiment was designed to show the action of large intravenous injections of the sodium salt of diethyloxyacetyl urea on the heart and blood pressure. For details read horizontally across the table from these numerals.

No.	Time.	Pulse Rate.	Heart Amp.	Height in mm. before Injection.	Height after Injection.	Remarks.
0	9:55 a. m.	150	38	38	38	Normal.
1	9:56 "	134	20	38	24	10 c.c. of 25 per ct. sodinm salt of diethyloxyacetyl urea + 15 c.c. saline injected into femoral vein.
2	9:59 "	126	14	35	22	15 c.c. of 25 per ct. sodium salt + 10 c.c. saline.
3	10:30 "	. . . .	. . . .	. . . .	. . . .	Changed drum.
4	10:50 "	124	5	35	13	20 c.c. of 25 per ct. sodium + 5 c.c. saline.
5	11:15 "					
6	11:39 "	130	10	34	14	20 c.c. of 25 per ct. sodium + 5 c.c. saline.
7	11:14 "	. . . .	. . . .	. . . .	. . . .	Changed drum.
8	11:47 "	122	10	33	5	25 c.c. sodium.
9	11:48 "	. . . .	. . . .	29	. . . .	
10	11:56 "	. . . .	. . . .	29	. . . .	Stopped drum.

organs were active. In some instances, after very large doses, the animals showed some tendency to dizziness, but this was much less pronounced than is often noticed with drugs of this class. Very large doses produced complete anesthesia, and, if repeated from day to day, the animals would ultimately die of exhaustion, but if the drug was discontinued within a reasonable length of time, even though the animal was completely anesthetized, recovery was complete.

Dogs.—A large number of experiments were made on dogs anesthetized with chloretone and morphin, a method that I have used for several years for rendering animals unconscious when employed for making blood pressure and other experiments.

Blood-pressure tracings were made from the carotid artery by means of a mercury manometer, and the myocardiograph records were taken from the right ventricle by means of Roy and Adami's myocardiograph, the animals being supplied with artificial respiration. Experiment 15 shows the results obtained in one typical experiment.

SUMMARY AND CONCLUSIONS.

1. Diethyloxyacetyl urea is a clear, transparent, slightly soluble, oily liquid, sp. gr. 1.1117, with characteristic etherial odor and taste. Chemical formula $C_{13}H_{24}N_2O_5$.
2. The sodium salt forms flaky, very soluble crystals, having a mild etherial taste. Chemical formula $C_{13}H_{23}N_2NaO_5$.
3. Consideration of its chemical structure warrants the belief that the depressing ethyl group, 40 per cent., and stimulating nitrogen, 9.6 per cent., are in the right proportion to produce a safe and efficient hypnotic.
4. Experiments on warm and cold-blooded animals show that diethyloxyacetyl urea is a relatively non-toxic chemical compound.
5. Prompt hypnotic action is produced in warm and cold-blooded animals when the drug is exhibited in any one of the usual methods of administration.
6. Complete anesthesia is produced by large doses, from which recovery is complete.
7. Pulse rate, blood pressure, heart action and respiration are but slightly, if at all, influenced by reasonably sized doses.
8. While the laboratory results indicate that diethyloxyaceteyl urea will be of practical value, it remains to be demonstrated by clinical experiments whether it will prove to be a desirable hypnotic for human beings.

INVERSION OF THE UTERUS,

WITH REPORT OF TWO CASES REPLACED BY LAPAROTOMY.*

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Inversion of the uterus is that form of displacement in which the uterus is turned inside out. For some hundreds of years[1] it has been the custom to describe two forms—partial and incomplete. In the partial form the fundus, though indented, does not pass through the os externum; in the complete form the fundus has been expressed through the os, so that the entire uterine cavity is obliterated. As both the method of diagnosis and the treatment vary with the degree of inversion, I would suggest that the first be called "initial," the term "partial" being reserved for those cases in which, although the fundus has passed through the os externum into the vagina, the inversion has not proceeded far enough to obliterate the uterine cavity. This is in accord with the German terminology.[2]

From a study of reported cases and from my own experience in the two cases here reported, I am led to believe that this is by far the most common form, and I shall discuss it more fully in considering diagnosis.

ETIOLOGY.

Any consideration of etiology must be preceded by a word as to the pathologic findings. Authoritative pathologic examinations are necessarily rare, since in recent years it has usually been possible to replace the uterus instead of removing it. Peterson[3] examined the tissues cut from the sides of his anterior incision; these showed an increase of connective tissue in the muscularis with sclerotic changes in the blood vessels. In the meshes of the fibrin deposit on the mucosa were found cell-débris and leucocytes. It has been generally assumed as an hypothesis that inversion occurs only where there has been paralysis of the uterine musculature at some point, which, being inactive, is forced in by the contractions of the surrounding muscular tissue.[4] Such paralysis is most apt to occur at the placental site, and we have consequently a large proportion of puerperal cases.

The statistics of Crosse,[5] based on 400 collected cases, are accepted to-day, and show about 88 per cent. puerperal; 12 per cent. due to fibroids and isolated instances of other causes. Given the pathologic paralysis, almost any muscular exertion, such as coughing or sneezing, may prove an exciting cause. The commonly accepted causes are: Traction on the adherent placenta, precipitate delivery, short umbilical cord, traction by tumors. The remarkable cases attested by Baudelocque, Parker and others of inversion of the virgin uterus in the absence of tumor, are probably to be explained as following an unrecognized dilatation by hematometra. In the great majority of cases the inversion begins either centrally in the fundus, or in one cornu, but another form has been established which is due to a progressive eversion which begins at the cervix. The condition is probably much more frequent than is indicated by the oft-published statistics of Denham,[6] who found but one acute inversion in 100,000 births in Dublin, and C. v. Braun, who did not meet with an instance in 250,000 births in Vienna.

Inversions are considered as acute or chronic. It is impossible to set a definite time limit for the acute stage, but it is probably less than twenty-four hours, and the change in the uterine tissues which constitutes the essential feature of the chronic condition may take place within a few hours of the inversion.

Acute inversion is usually accompanied by sharp pain, shock, hemorrhage and collapse. Yet any one or all of these symptoms may be missing. This is particularly true of pain, as inversion is apt to occur while the patient is still unconscious from the anesthetic given at the close of normal labor or for operative procedures.

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* I wish to acknowledge my deep obligation to Drs. Charles M. Green and Franklin S. Newell, my seniors on the gynecologic staff at the Boston City Hospital, for the opportunity of operating on the cases here reported and particularly for their skilled assistance (from the vaginal side), without which my procedure would have been futile.

[1] Soranus of Ephesus (A. D. 110) states that "inversio uteri" may follow the careless removal of adherent placenta. Ermerins. Ephesii, Liber de Muliebribus Affectionibus, 1869, Ch. xxii.

Winckel: Lehrbuch der Geburtshülfe, Leipzig, 1893,

Gynecology, New York, 1903, vol. ii, p. 489.

Woch., 1903, vol. xvi, p. 812.

S. Ass., London, 1847, xv., 243.

Sc., 1866, vol. xlii, p. 181.

Chronic inversion also may have few or no symptoms, or there may be occasional hemorrhage with consequent anemia, disorders of urinary apparatus, difficult defecation or constipation and discomfort in walking or standing. Complications may occur in acute inversion, but are more often met with in old chronic cases. Thus in an acute case the inversion may be the result of the expression of a large sessile intra-uterine tumor, in which case it is difficult to establish the upper limit of the tumor, or the beginning of the uterine tissue.[7] The complicating tumor may be a subperitoneal myoma, which is mistaken for the fundus in normal situation.[8]

In chronic cases, adhesions may form between the extruded endometrium and the cervix or vagina. There may be adhesions between the peritoneal coats abnormally in contact in the peritoneal crater or between the round ligaments, Fallopian tubes and the peritoneal lining of this crater. The contraction of the cervical ring may be sufficiently tight to cut off the circulation and cause gangrene of the uterus, and of the round ligaments and Fallopian tubes in so far as they lie below the cervix in the crater. Finally, where the blood supply is merely diminished we may have atrophy of the inverted fundus, the endometrium of which has been converted into a tissue resembling skin through its constant friction with the vaginal walls or between the thighs.

In spite of the fact that immediate reposition is usually easy and safe, the prognosis in acute inversion probably will remain always a grave one. Death may occur in a comparatively short interval as a result of extreme shock, or of sudden overwhelming hemorrhage. In the remarkable case reported by Anderodias,[9] he saw the patient less than two hours after the inversion occurred, and though reposition by taxis was comparatively easy, the patient collapsed and died instantly after the maneuvre. Crosse gives a mortality of 73 per cent. in 109 cases; Winckel's more modern statistics show a mortality of 22 per cent. in 54 cases.

Considering unrecognized instances, the mortality is probably higher than the last-named percentage. If the patient lives through the acute stage, her life is endangered by the possibility of acute infection of the endometrium, and later by periodic and irregular hemorrhage and by the grave operative risks incurred in seeking relief for the condition. A certain number of spontaneous repositions are recorded. Thomas,[10] in a classical article on the subject, quotes twelve such cases, and the following anecdote: "There is nothing easier than the rejection of the testimony of others, and the discrediting of deductions which we ourselves have not drawn. When De La Barre presented his case of spontaneous reposition to the Academy of Surgery, Baudelocque was appointed a committee to examine into it and reported that it was 'totally false.' Some years afterwards he met with a very similar case, and yielded to the evidence of his own senses a credence which he had presumptuously denied to the assertions of another."

DIAGNOSIS.

The diagnosis of inversion is usually difficult. Apart from numerous instances where the mass has been excised or morcellated as a polyp without considering the possibility of inversion, many eminent surgeons have erred after the most careful attempts at diagnosis, and in no condition is an error in diagnosis fraught with more danger to the patient. The possibility of inversion of the uterus must be considered whenever a uterine, cervical or vaginal tumor is detected by the physician. Even where the microscopic examination of snippings reveals a fibroma or sarcoma, the possibility of a complicating inversion must be borne in mind.

Velpeau[11] said in regard to this diagnosis: "In some cases doubt is the only rational opinion." Gooch,[12] in his essay, writes: "When partially inverted, the tumor in the smoothness of its surface, the roundness of its body, the narrowness of its neck, and its being encircled by the orifice of the uterus, sometimes exactly resembles polypus of the fundus."

The differential diagnosis lies between inversion, uterine tumor (polyp, fibroid or sarcoma) and procidentia. The last named should be ruled out by a careful examination, but a tumor may deceive in various ways. The orifices of the tubes are by no means always obvious. Where the fundus remains in the vagina they can not be detected, and even where the fundus is outside of the vulva these minute orifices, buried in the thickened endometrium, must be demonstrated with difficulty. The sound is not infallible, as a fibroid polyp may be adherent throughout the cervical circumference, and thus prevent the entrance of the sound. In partial inversion, even a fortnight after labor, the sub-involuted uterine cavity may admit the sound to the normal depth, though its fundus has passed through the os. During a protracted examination the uterus is apt to remain in a state of tonic contraction, when it is so hard as to simulate, not merely the body of a fibroid, but also its pedicle. The detection of contractions in the mass and its relaxation under full anesthesia may prove a valuable aid to diagnosis. The differentiation of the subjective sensations of the patient when the mass is touched is certainly of doubtful value. Through a very thin and much-relaxed abdominal wall under full anesthesia it may be possible to detect the depression or crater where the fundus should be (this was true in one of my cases, but not in the other), but where the ring is tightly contracted, filled with both round ligaments and both Fallopian tubes, and capped by the ovaries, there is no depression to be felt. When not in a state of contraction, the inverted uterus, if grasped and held by the examining hand, becomes distinctly diminished in size, and considerable bloody serum is expressed from the very edematous endometrium. In neither of my cases was there sufficient bleeding, as a result of examination and taxis, to be worthy of note.

As inversion may occur after labor without pain, hemorrhage, or pronounced shock, the favorable minutes for replacing may have elapsed before either patient or attendant is aware of the serious complication. Consequently, the obstetrician must always assure himself immediately after the delivery of the placenta that the spheroid of the fundus is convex, and this, fortunately, it is usually easy to do, because of the marked relaxation of the abdominal walls. Where the patient has complained of sharp pain during a forcible expression of the placenta, or where this event is followed by hemorrhage, if the uterus can not be outlined by abdominal palpation, a careful vaginal examination is indicated. It hardly seems necessary to reiterate the prophylactic proverb "do not pull on the cord." Further prophylactic measures are the avoidance of undue force in Credé's method, and the complete abstention from pressure on the fundus while it is relaxed. However, the possibility of spontaneous inversion some hours after the delivery of the placenta has been well established.

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[7] See illustration. Kelly: Operative Gynecology, New York, 1900, i, 536.

[8] See illustration. Dudley: Principles of Gynecology, Philadelphia, 1904, p. 705.

[9] Anderodias: Bull. Soc. d'Obst., Paris, 1903, vol. vi, p. 97.

[10] Diseases of Women, Philadelphia, 1875, p. 431.

[11] Clin. Chirurg., Paris, 1841, vol. ii.

[12] Gooch: Essay on "The Symptoms, etc., of Inversio Uteri," London, 1818.

METHODS OF TREATMENT.

Peterson[3] gives a perfect summary of the methods of treatment,[13] and I shall detail in regard to treatment only sufficient to make clear my contention for the abdominal route.

In acute inversion, an immediate attempt to replace should be made, if the patient's condition permits. But if there be extreme shock, provided the hemorrhage can be controlled, it is advisable to defer all manipulation. The method of replacing by taxis is simple, but difficult to execute. The theory that the placenta, if still attached to the fundus, should be left as found until after reposition to avoid further hemorrhage, has many objections. Inversion is most apt to occur where the placenta is adherent, and such a placenta can be separated much easier before than after reposition. Further, the placenta increases the bulk of the mass, which is to be returned through the constricted os. After years of discussion there is to-day practical unanimity that the part of the uterus last inverted should be returned first. The patient should be given full anesthesia. The bladder and the rectum having been emptied, one hand passed into the vagina grasps the inverted fundus and compresses it so as to express serum and reduce its bulk. The fingers of the vaginal hand attempt alternately to dilate the cervical ring and to push through it that part of the uterus which lies just below the ring in the vagina. Meanwhile with the other hand, counterpressure is made through the abdominal wall, and where the wall is thin and thoroughly relaxed the fingers may enter the ring from above and aid in its dilatation. In view of the additional shock entailed by prolonged and forcible taxis, and the success of operative procedures, both the force and duration of taxis should be limited sharply. Rupture of the vagina and injury to adjacent organs is not a rare sequel of forcible taxis. When reposition has been effected, the uterus should be washed out with hot saline solution, and if it does not contract firmly, it is to be packed.

In chronic inversion, taxis should always be given a trial, particularly as it will usually demonstrate whether it seems advisable to attempt to replace the uterus intact by the abdominal method, or whether vaginal section of both cervix and uterus are indicated, because of the firmness of the ring and the solidity of the fundus. If taxis fail, the numerous older methods may well be passed by and either the vaginal or abdominal section may be chosen. These older methods were not without grave risks. They attempted reposition by taxis with the whole hand in the rectum or with the fingers in the bladder, by the use of prolonged pressure by means of air or water-bags or spiral springs. Where the conservative operative measures fail, recourse to hysterectomy or amputation is indicated.

Peterson divides the vaginal operations into four classes according to whether the incision is partial, from cervix to fundus, or complete, through the cervix to the fundus, and according to whether the incision is made in the anterior or posterior wall of the uterus.

The ideal vaginal method (known as Spinelli's operation), was used by Peterson. It is the complete anterior colpo-hysterotomy. The vesico-uterine peritoneal pouch is opened, the cervix is stretched from side to side, and an incision is then made through the cervix and uterus to within one-third inch of the fundus. The uterus is then easily reinverted, and the incision closed as in Cesarean section.

There are certain objections to the vaginal route. The tubes and round ligaments are exposed to vaginal contamination and then immediately turned free into the abdomen. As both tubes, round ligaments and sometimes a loop of bowel are packed tightly into the crater, there is the risk of injury to these organs in making the incision. If the vaginal incision is made posteriorly, there is apt to result an adherent retroversion; if made anteriorly, we have the undesirable vaginal fixation. Finally, there is the possibility of a rupture of the uterine scar in a subsequent pregnancy.

THE ABDOMINAL ROUTE.

In 1869, T. G. Thomas published an account of a case successfully treated by abdominal section and intra-abdominal dilatation of the cervical ring. This case was a chronic inversion of two years' duration. Subsequently he reported a second case of eight months' duration, in which reposition was equally successful, but the patient died of peritonitis some days later. Peterson collected fifteen cases of inversion treated by the abdominal route. Of these, eight were successful and seven complete failures. (It does not seem just to consider Thomas' second case a failure, although it resulted fatally.) Of the eight successes, three promised failure until the ring was incised. I have not been able to find any record of a similar operation since the publication of Peterson's paper. Counting Thomas' second case as a mechanical success, and adding my two cases, we have a successful percentage of 73 per cent. This compares poorly with the record of Spinelli's operation, performed six times with six successes. However, if due allowance is made for the small numbers on which these statistics are based, and for the constant recent improvement in abdominal surgery, I believe that the abdominal operation will be developed so that its record will be superior to the vaginal. I certainly do not advise the abdominal operation in all cases of inversion. In this, as in all other surgical diseases, the operation must be chosen after due consideration of the individual case.

Details of Operation.—The bladder and rectum are emptied. The vagina and uterus are thoroughly cleansed by prolonged washing with warm saline solution. After the usual preparation of the abdomen, it is opened by a median incision, the patient being in the high Trendelenberg position, and so draped with the sterile sheets as to permit access to the vagina. Immediately the bowels are pushed upward and "walled off" by a plentiful supply of gauze. If properly done this decreases greatly the shock and danger of the operation, as it limits sharply the extent of peritoneal exposure and trauma. If possible, the ring is dilated with the fingers, but if the constriction is so tight as to prevent this procedure, the ring is dilated first with a steel dilator of the Wathen or Goodell type, then with Reynold's dilator, which is peculiarly serviceable. In inserting the steel dilator and in dilating, care must be taken to avoid pressure on the tubes and round ligaments. Only moderate force should be used, and this must be regulated by the hand and not by any mechanical device on the dilator. In a few minutes it will be possible to partly withdraw the round ligaments and tubes, though no force is to be employed in order to accomplish this, and no attempt should be made to reinvert the uterus by traction on the ligaments or tubes. An assistant places the hand in the vagina and begins to carry up that part of the uterus which descended last; as this rises it is caught and held with volsellum forceps. Thereon the process of dilatation, reinverting and holding are repeated until the operation is complete. No attempt at traction on the volsellum forceps is permissible, as it will result merely in lacerating the peritoneal covering of the uterus itself. Progress at first is very slow, but after a certain point is reached the fundus slides through the ring into position. Meanwhile the abdominal assistant has offered counterpressure against the ring. When the uterus has been replaced, it may be suspended, but as involution proceeds rapidly during the hours following reposition, it is better merely to support the fundus for a few minutes, during which the uterus will begin to contract and retract, and the tubes, if not too long or too severely constricted, will regain practically their normal appearance. The gauze is removed and the abdomen closed in tiers. The table is then lowered, the foot-piece dropped, and two nurses hold the patient's legs in the lithotomy position, while a hot intrauterine douche is given by the vaginal assistant who has not withdrawn his hand until the operator has felt assured that the uterus would remain in place. The operation does not require more than forty-five minutes from beginning to end. As the work of the vaginal assistant requires more skill and is more important than the abdominal maneuvres, the assistant should be chosen accordingly.

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[13] Excellent bibliographies are given in the articles of Peterson and v. Winckel, already referred to.

If this operation can be perfected so as to insure invariable mechanical success, there can be no doubt that it will be an ideal procedure for reposition of the inverted uterus, which is thus restored intact to its original position without violating the integrity of its peritoneal cover. Further, it permits an inspection of the tubes, which in an old case may require resection.

The two cases here reported were treated within thirteen months on the Gynecologic Service of the Boston City Hospital.

CASE 1.—Mrs. E. R., aged 29. American by birth; i-para. Family and past history negative. Five days before I saw her patient had given birth to a living baby after a rather long and difficult labor. The placenta was expelled naturally without unusual pain or other symptoms. Two hours later she had a moderate hemorrhage which was repeated at intervals until vaginal examination disclosed a tumor, when she was sent to the hospital. At entrance temperature 101.5, pulse 114. Pulse regular, good volume and tension. Abdomen normally tympanitic and not tender. What appeared to be a fibroid the size of a large pear protruded from the vulva and on vaginal examination was found to pass through the cervix. Leucocytosis of 17,800.

The patient was kept under observation for a few days until the sloughing perineum could be rendered clean. Then under ether, a final examination was made, which revealed the error in diagnosis. The sound halted when an attempt was made to enter the os at the side of the mass, and careful abdominal palpation revealed the crater. Attempts to reduce the inversion by taxis failed and after forty-five minutes of careful manipulation the patient was put to bed and prepared for laparotomy on the following day.

Operation.—Patient in high Trendelenburg position. The sterile sheets draped over each thigh separately so as to permit access to the vagina. The abdomen having been opened by a median incision, the bowel was carefully packed towards the diaphragm with gauze strips. The uterus presented the striking picture of complete inversion. Both tubes and both round ligaments were within the inverted cavity, the tubes were deeply injected, purple, and thrice the normal size. The ovaries also wine-colored and tense, rested on the brim of the cavity. The ring was firm and could not be dilated with the fingers. The ring was then carefully dilated with Reynolds' dilators, which were inserted so as to avoid injury to the tubes. The assistant's hand in the vagina then began the process of reposition. The anterior wall was raised, and as it came up it was caught and held with volsellum forceps. As each centimeter was gained, another pair of forceps was applied. The traction from above was reduced to a minimum. As soon as possible the tubes were delivered. This gave more room, and after repeating the dilatation with the Reynolds dilators, the fundus slipped through the ring. The congestion of tubes and ovaries quickly disappeared. The uterus contracted and showed no tendency to invert. However, as the fundus tended to sink back into the fossa of Douglas, it was lightly suspended. When the volsellum forceps were first applied, some traction was made which caused them to tear out and leave a small nick in the peritoneal coat of the uterus. This was readily closed with one stitch of fine catgut.

The operation consumed less than half an hour. It was attended by very moderate shock. At the close of the operation a copious hot intrauterine irrigation of salt solution was given. Six hours after operation the pulse was 104, temperature 101.4. The subsequent convalescence was uneventful.

CASE 2.—Mrs. M. H., aged 37. Irish by birth; iii-para. Patient had an instrumental delivery at her first labor in 1901. Her second labor (1903) had been normal. Her third labor was terminated after twenty-one hours by a high forceps operation. Shortly after delivery the placenta was expelled, without aid, and was found still attached to the fundus, which had come down with it. There was little pain, only slight shock, and no hemorrhage. Attempts to replace by taxis having failed, the patient was sent to the hospital, where I saw her twelve hours after delivery.

Patient did not look anemic, but was pallid. The expression was anxious, the facies typical of shock. The pulse was small and rapid (130), the temperature 100. The abdomen was normally tympanitic, not distended, not tender. Protruding from the dilated os was a round, hard mass, the size of a fist. The examining fingers passed completely around this mass, which appeared to be attached by a thick twisted pedicle which passed through a tightly constricted internal os. Although no depression of the fundus could be felt, a provisional diagnosis of inversion was made, and, under ether, a short attempt was made to replace by taxis. As this did not succeed, even in part, and as the mass remained hard, I decided that I was dealing with a fibroid. There was no hemorrhage, but the patient's condition was such that all further procedure was deferred until treatment for shock had been instituted.

This was at night. The following morning the patient was greatly improved; under ether a slight depression could be felt in the fundus, and the vaginal mass soft, so that the diagnosis was obvious. Taxis having again failed, the patient was prepared and the abdomen opened.

Operation.—Median incision. The conditions were similar to those described in Case 1. The ring was readily dilated with the fingers, so as to admit the half hand; but it contracted again as soon as the hand was withdrawn, so that it was necessary to dilate the ring again and again. Reposition was accomplished with only moderate difficulty in the same manner that was employed in Case 1. The entire operation was completed in forty minutes. It was followed by slight additional shock. Six hours after operation temperature 99, pulse 126. Convalescence uneventful.

Alcohol Is a Poor Cardiac Stimulant.—Dr. J. H. Kellogg of Battle Creek declares in the *Lancet-Clinic* that the theory that alcohol is a stimulant was long ago rendered thoroughly untenable by a multitude of carefully conducted experiments on healthy subjects, showing that alcohol is always and in all doses a narcotic, and not a stimulant; that it depresses, and does not excite the heart and other vital organs; that it lessens vital resistance to disease; and that it is a toxic agent which the body must cast out, and not a food to be assimilated or a source of energy or an aid to any vital organ or function.

THE ROENTGEN METHOD AS A GUIDE IN OPERATING FOR LITHIASIS OF THE URINARY TRACT.*

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It is one of the strangest phenomena in medicine that in the face of the most abundant proofs of reliability of renal skiagraphy, some of the best text-books still hesitate to recommend the method. Some others even openly warn the practitioner against it. This they do because authors have observed or heard of grave errors committed in its employment. Thus it is said, for instance, that skiagraphs taken by the "best experts" have shown renal calculi, while nephrotomy disclosed the absence of any concretion; and, on the other hand, that cases were reported, in which calculi were found at the operation after skiagraphy had failed to show evidence of their presence. None of these reports is well founded.

Whenever errors have been committed they were of the individual and not of the method, and this should not be held responsible. I have often admired the power of imagination of some novices in skiagraphic work, who demonstrated the outlines of calculi as well as of some abdominal organs to me, when I could only find the possible indications of a dense band of tissue or a spot in the plate or a button of the underclothing of a too modest patient.

Such visionary powers, while immensely useful in the art of Shakespeare or Goethe, can not be too strongly reprehended in the domain of science and in the field of the Roentgen rays.

Now, fortunately, skiagraphic technic is so much advanced to-day, that it stands in no need of the imagination. A definite diagnosis in suspected lithiasis can be made. In each and every instance, or in other words, a renal calculus must invariably show, provided calculus is there.

Lumbar exploration and similar procedures for suspected nephrolithiasis, advised in all text-books, are, therefore, no longer in order, the Roentgen method not only showing whether or not any calculi are present, but giving precise information as to their size, shape and number. It will also show whether there are any calculi in the ureter or bladder.

The revolution which the Roentgen method has wrought in this special field is as great as in that of the injuries and diseases of the bones, which, after years of struggling, thanks to the untiring efforts of a few imperturbable physicians, is gradually beginning to be appreciated by the profession at large.

The chemical composition of the calculi of the urinary tract determines the greater or lesser depth of their shadows. The greater their atomic weight, the greater their density, and consequently the more distinct the shadow. Thus, calculi composed of oxalate of lime show the most distinct shadows. Their shadows are even deeper than those of bone tissue. Next to them we find those consisting of phosphate of lime, while the uric-acid calculi give the faintest shadows.

In practice, however, we often find that calculi are not of one distinct type, and, if they are, layers of various degrees of density are observed. Two types are generally present, then one or the other character predominating. So it frequently happens that there is a nucleus of uric acid surrounded by alternate layers of the other elements.

This explains why, at least, some dense areas are found in all cases of renal calculus; the same is true when the calculi are of small size. The question of composition, however, is of less importance than that of bringing the calculous area as near to the plate as possible, and keeping the field absolutely quiet.

These two requirements are attained by the use of a tubular diaphragm, which offers another great advantage, that of permitting the passage of the focal rays alone, excluding those rays which emanate from the tub l wall.[1] The disadvantage of the tubular diaphragms is that only small areas can be shown at a time. This disadvantage is little felt in the representation of joints, etc., but in renal or biliary skiagraphy it may be responsible for missing the seat of the calculi.

It is evident, therefore, that in skiagraphy of the urinary tract a general exposure must precede that of a limited area, since it can not be known beforehand whether the suspected calculi were situated in one or in both kidneys, or in the ureters. In other words, the Roentgen plate must *a priori* include an area which is bounded by the eleventh rib and the crest of the ilium on one side and by the vertebræ and the anterior axillary line on the other. For this purpose, plates of the size 10x12 or 11x14 are required. Corresponding with each side of the body, wire letters are placed which serve as landmarks for comparison, and at the same time indicate the side of the body. This is emphasized for the reason that cases are reported in which it has happened that on account of the changed relations of the negative, the wrong side was incised.

A few more wire letters may be placed in the renal region, also serving as landmarks for the special exposure. It is useful sometimes to attach the same wire letters to the body by means of adhesive plaster strips and to skiagraph them together with the wire letters on the plate, thus being able to compare the relations of the landmarks of body and plate for better localization.

Now, while with the general tentative exposure, only faint outlines of the calculi are obtained as a rule, they may be distinct enough to show at what area the diaphragm should be adjusted best to attain the most distinct outlines.

If the large plate proves to be negative, although other means of examination point to the presence of nephrolithiasis (hematuria), both renal regions must be separately examined with the aid of the diaphragm, several exposures sometimes being required. This, of course, is troublesome, but in view of the great importance of a correct diagnosis, it can not be omitted. It happens rarely, however, that so many exposures are needed, as a rule, the two sufficing for information. In this manner I have also been able to show calcareous deposits which were produced by renal tuberculosis.

The *modus operandi* in renal skiagraphy is as follows: The general exposure is preceded by a thorough evacuation of the bowels, followed by the administration of a moderate dose of opium. The patient is in the dorsal position on a large plate covering both lumbar regions. For localization, a few wire letters are distributed over the plate, the R. (right side) and L. (left side) being placed directly underneath the outer surfaces of the lumbar regions, so that they appear on the integumental margins of the skiagraph. With a pair of calipers their distances from the spinal column and from the ribs are ascertained and transferred on the abdominal surface to be marked there for the proper adjustment of the diaphragm. The head and shoulder are elevated by a few pillows, while the chin touches the sternum. The knees, after being flexed, are well immobilized by sand bags. The exposure should last from five to eight minutes, in proportion to the thickness of the abdominal tissues to be penetrated. The vacuum of the tube should be soft. I prefer the self-regulating tube of Mueller for renal skiagraphy.

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* This article was prepared to be read before the Section on Surgery and Anatomy of the American Medical Association at the Portland Session, July, 1905, but the author was prevented by sickness from being present.

[1] Archives of the Röntgen Ray, etc., London, February, 1905.

The criterion of a good plate is that the vertebræ, the eleventh and twelfth ribs and the outlines of the ileopsoas muscle can be clearly defined. On the other hand, a plate which shows a number of calculus-like shadows, but fails to represent these points, must be regarded absolutely misleading, and should never be used as a guide for operation. The only thing to do is to try a second and if necessary a third or fourth time, the latter, however, seldom being necessary in the hands of a man of little experience.

If the plate is good and shows the indications of calculi, the tubular diaphragm is applied now in the same position as advised for the general exposure, with the difference that the shoulder of the exposed side is elevated somewhat more. It is best pushed below the rib arch in an oblique direction in such a manner that its center corresponds with the landmarks indicated on the large plate. The oblique direction permits of pressing the diaphragm deeply into the abdomen, thus reducing the distance between it and the plate to a considerable extent.

The time of diaphragmatic exposure should be two minutes in thin and from four to five minutes in stout individuals.

If the large plate is negative, I resort to a diaphragmatic exposure nevertheless, and if this shows the criteria mentioned above distinctly, I can most positively assure my patient that he does not suffer from nephrolithiasis.

It is not desirable, however, that the bones mentioned should show textural details. As a rule, the longer the exposure lasts, the clearer the bones show and the less marked the calculi will appear.

From this we also learn that rules for the time of exposure can only be laid down in general, the instinct of the operator being an important factor in determining details.

These views apply much more to the technic of biliary skiagraphy. As I have so often emphasized, the reason why so many surgeons have tried in vain to reproduce the calculi is due to the simple fact that they use hard tubes which penetrate them, so that they on account of their small degree of density are irradiated away, so to speak. In all my successful exposures for biliary calculi the bones appear dark and especially show no textural details.

The same principles apply to the skiagraphy of the urinary bladder. Vesical calculi, however, can be well shown without the aid of the diaphragm. In stout individuals the diaphragm may be useful sometimes.

The patient is skiagraphed in the recumbent position, the center of the tube to be directed to the upper margin of the symphysis. A good vesical skiagraph shows the structures of the coccyx well. The sacrum should not show any details. By oblique irradiation, the shadows of the vesical calculi are generally found just below those of the coccyx. An oblique exposure should be made beside, because it may show whether the stone is free or encysted. If the patient bends slightly forward in the lateral position, the calculus, if free, sinks toward the anterior vesical wall and becomes conspicuous directly behind the anterior abdominal wall. If it is not free, it usually shows far back toward the sacrum, since encysted calculi are nearly always attached to the posterior vesical wall. If the stone is of very large size, or if a great number are present, the whole vesical space is filled up and displacement is not apt to occur.

So far as the diagnosis of the number, shape and position of the calculi is concerned, the Roentgen method affords more valuable means than the cystoscope, aside from the fact that a calculus imbedded in a diverticulum will escape the cystoscope, while the rays will always detect it. At the same time, it should be realized that skiagraphy is a far more comfortable procedure than cystoscopy. The time of exposure is two minutes in children and from three to four minutes in adults. A soft vacuum is just as desirable as in renal skiagraphy.

My experience with the Roentgen method has suggested to me that it is invariably necessary to skiagraph the renal regions whenever vesical calculus is suspected. Since I have made this a principle, I have found renal calculus whenever there was a concretion in the bladder. This is not strange, if we realize that most vesical calculi were originally formed in the kidneys. This also explains the frequent recurrence of vesical calculus after operation. Within the last year I have observed three cases in which I operated for recurrent vesical calculus. In all of them skiagraphy revealed the presence of nephrolithiasis.

The first case was that of a woman of 32, who submitted to lithotripsy a year before I saw her. She was greatly relieved at first, but nine months afterward began to suffer from frequent micturition and pain in the vesical region. Skiagraphy demonstrated the presence of a small calculus in the bladder and a larger one in the renal region. I removed the vesical calculus, but the patient felt so well afterward that so far she has not decided to be operated on for the nephrolithiasis. If the size of the renal calculi is such that they may pass the ureter, I do not regard the removal of renal calculi an imperative necessity, but advise antilithiatic medical treatment first, the effect of which is studied by the Roentgen method.

In another case, a man of 24 showed the same history. Suprapubic lithotomy two years before I saw him had brought complete relief, the symptoms of recurrence appearing a year afterward. Skiagraphy revealed a vesical calculus of moderate size and a triangular calculus of large size in the left kidney. The patient submitted to suprapubic lithotomy, and so far has not returned to me.

In the third case, that of a boy of 7, whose large vesical calculus was removed by suprapubic cystotomy three years ago, the relief was complete for about a year, when the patient again began to suffer from symptoms of vesical calculus. The parents at first were unwilling to permit of repeated surgical interference, and while hesitating, the patient became greatly emaciated, the symptoms of light urosepsis finally compelling the parents to give up their resistance. The skiagraph revealed the presence of vesical as well as renal calculi on the left side. Suprapubic cystotomy was performed at the Postgraduate Hospital, and gave immediate relief from painful micturition, but had little influence on the pyelitic symptoms. The extreme exhaustion of the patient seemed to me to be a contraindication to immediate nephrotomy, wherefore I tried to keep the patient up with stimulation, at the same time giving hexamethylenamine internally. Three weeks afterward, when the vesical wound was thoroughly healed, I resorted to nephrotomy. The large triangular calculus was tightly imbedded in the parenchyma, so that it had to be mostly shelled out with the knife. The patient was discharged from the hospital four weeks afterward.

A small calculus was found near the lower surface of the large renal concretion. It would most probably have formed the nucleus for a third calculous formation in the bladder if it had been removed. The calculi consisted of oxalate of lime and the outer layer showed a smaller degree of density than the inner.

In another case of great skiagraphic interest, the patient was operated on at the Postgraduate Hospital. The patient, a woman of 36, began to suffer from violent pain in the right lumbar region thirteen years ago. Examination of the urine revealed the presence of pus. Nephrotomy disclosed the presence of a calculus of moderate size surrounded by pus. It was supposed, then, that the calculus was the source of the suppuration, and consequently a speedy recovery was expected. This expectation was not realized, a fistula remaining. The patient improved considerably, but the fistula did not close, so that after a year had elapsed, nephrectomy was advised, to which the patient, however, did not submit because her general condition had become very good in the meanwhile and the discharge had decreased.

About a year later the fistulous tract closed, more pus appeared in the urine and the left side became painful. Left-sided nephrotomy was done, a large abscess being evacuated. The patient again improved and the opening closed, but the pyuria continued, the patient's condition varying considerably.

When I saw her for the first time I suggested skiagraphic examination beside the other modern diagnostic means (cryoscopy, ureteroscopy), but the patient said: "There is no necessity for examining for nephrolithiasis, because the stone I had was removed by the surgeon." I mention this as an interesting and misleading argument. I, of course, insisted on my proposition, and the skiagraph showed the faint outlines of four calculi in the right lumbar region. A second exposure with the diaphragm showed them very distinctly.

The calculi had to be shelled out with difficulty, the irregular surface forming an impediment. The perirenal structures were matted and hardened, a natural consequence of the long-standing suppuration and inflammation. The adhesions were so dense that the kidney could not be lifted out, and great care had to be exercised during the whole procedure. This observation is another point against the formation of normal blood circulation after decapsulation. One stone had a sharp triangular edge. Recovery took place in two weeks, the patient being able to go around at that time. Three weeks after the operation febrile elevations began and the left side became painful. An abscess formed which was promptly discharged. Exploration of the abscess cavity revealed the presence of a long sinus leading to the opposite side just in front of the spinal column. The patient improved slowly and is up at the present writing, the thorough closing of the wound being expected in a short time.

The epicrisis of this case suggests that nephrolithiasis existed at the time of the first operation, when the Roentgen method was unfortunately not yet available. The very able surgeon who operated at that time undoubtedly examined the kidney carefully, but was unable to palpate the calculi through the parenchyma. The advice given later, when the fistula did not close, suggests that he thought the kidney to be in a state of destruction rather than assumed the presence of the stone, which under the circumstances would have been most natural. Under the most careful wound treatment and the good care which the intelligent patient exercised, the fistula closed, but the pus became retained in the depth and probably found a way to the opposite side which necessitated the incision on the left side. It is evident that if the Roentgen method had been available at the time of the first operation, the remaining calculi which penetrated the whole kidney would have been recognized and removed at once, thus sparing years of suffering. It did not only reveal their number, but also their size and shape, and—last but not least—localized them. After the surgeon has removed the calculi, which are easily identified with those of the plate, no further searching is required, as it was imperative in former years, when the kidney had to be nearly dissected in order to ascertain whether there were any additional calculi left.

INFLAMMATION OF THE EYE DUE TO THE TOXINS OF THE GONOCOCCUS.

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IRITIS.

Under the name of metastatic ophthalmia, or some other such synonym, inflammation of the iris has long been recognized among ophthalmologists as a possible accompaniment of gonorrheal urethral infection. There is scarcely a treatise on diseases of the eye since McKenzie's time, but speaks of it in a more or less extended manner.

The iritis is commonly regarded by ophthalmic authorities, as a part of an intoxication which manifests itself under the form of rheumatism; at least, few cases have been reported which have not been associated with greater or less pronounced symptoms of a rheumatic nature—usually affecting the joints.

Whether the intoxication in these instances is from an entrance into the circulation of the gonococcus itself or from the product known as the toxins, has not been definitely settled to the satisfaction of all. Further investigation and observation along this line are needed. The fact of the association of the diseases with gonorrheal infection, however, is no longer disputed.

As to the frequency of gonorrheal iritis, all authorities are not agreed. By some it is considered as extremely rare. De Lapersonne[1] of Paris, for instance, who is one of the latest writing on the subject, states that he sees only one or two cases in every 7,000 new patients at the Hotel Dieu. Some others, however, seem to regard it as rather common. This discrepancy may be accounted for by the fact that the complication is more frequent in some localities than in others, or, what is more probable, by a failure on the part of some clinicians to inquire into the existence of gonorrhea in the cases of iritis which come under observation. It is a fact not without bearing on the point of frequency, that from the large clinic for genitourinary disease at the Central Dispensary and Emergency Hospital, where my own clinic is located, there has not been a single case of gonorrheal iritis referred to my service during the last twenty-five years, while cases of iritis from syphilis have come to me from that clinic in large numbers. It may be of interest to know that the genitourinary clinic is largely recruited from the negroes, among whom gonorrhea is most rife.

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[1] Archiv. D'Ophth., March, 1905.

The forms under which gonorrheal iritis may appear are various. It may be the so-called spongy iritis with a deep anterior chamber and dilated pupil, or any of the plastic varieties with various kinds of exudate, and even the hemorrhagic form has been mentioned. The so-called spongy iritis, such as was present in the case to be described, while one of the rarest forms of iritis to be met, generally finds its place here, I think, with greater comparative frequency than the other forms. As another distinctive feature of gonorrheal iritis may be mentioned its tendency to recurrence during the same or subsequent attacks of gonorrhea. The same holds true of the common rheumatic form. The disease may be very intense in its manifestation or mild and slow in its progress. Almost without exception, both rheumatism and iritis show themselves during the declining stage of the urethral disease, quite contrary to what would be expected. One or both eyes may be affected at the same time or in succession.

It seems singular and altogether quite unaccountable that while gonorrheal iritis finds at least a mention in practically every text-book of importance on diseases of the eye, it seems to be completely ignored in all the treatises on genitourinary diseases which I have been able to consult, with the exception of two American text-books.[1]

It is, therefore, not without justification that the subject is brought more closely to the attention of the general practitioner and genitourinary surgeons among whose patients the disease shows itself primarily, and in whom a correct diagnosis should first be made, and, of even more importance, a proper treatment promptly begun. A careless or not sufficiently informed practitioner, not being aware of the possibility of iritis as a complication of gonorrhea would naturally look on any redness or infection of an eye as a beginning conjunctivitis due to an external infection, and treat it as such with astringents and antiseptics, probably for some days, so that by the time the real condition becomes known irreparable damage would already have been done. As is well known, it is more than usually necessary that in iritis the use of a mydriatic be begun early in order to secure at once as full a dilatation of the pupil as possible—since, otherwise, permanent adhesion to the anterior capsule of the lens or complete closure of the pupil is almost certain to occur. A day or two, or even a few hours' delay, may mark the line between the preservation of good vision and partial or even complete blindness. As a clinical contribution to the study of this form of disease the following history is offered:

Patient.—J. A. D., a young white man aged 22, came to me on Oct. 6, 1904, complaining of his eyes, which he said felt uncomfortable but not painful, and as he had been suffering from gonorrhea for some three weeks, he was fearful that this might be the beginning of a gonorrheal conjunctivitis, as he was aware that "gonorrhea often affected the eyes."

Examination and Treatment.—As the conjunctiva was clear and the pupils responded promptly to light, I assured him that there was no inflammatory trouble, but, as an examination revealed myopic astigmia of 0.5 D. with the rule, he was ordered correcting glasses, which gave $V = 5/5$ in both eyes.

Subsequent History.—On October 7 there was some slight injection of the right eyeball, the vessels being fine and coming up to the corneal edge; no mucus or pus. There was no pain and the pupil reacted well to light. He was ordered to make hot applications to this eye and to abstain from work. This condition continued about the same with clear media and a normal fundus until October 12, when the bulbar congestion increased, but with no complaint of pain. Atropin gr. ii to aqua ʒi, was then ordered in addition to the hot applications.

October 13: When he awoke he found that his vision was almost entirely gone. An examination revealed great muddiness of the anterior chamber and a rigid but fair-sized pupil. The fundus could not be made out in any detail, only a dull diffuse redness being visible under the illumination. An examination with the binocular magnifier showed many fine fibers coming out from the pupillary space and reaching to the posterior surface of the cornea. The strength of the atropin was increased to gr. iv to aqua ʒi, a drop in the eyelid three times a day, and dionin (ethyl-morphin hydrochlorate), 5 per cent., was used. The diagnosis of spongy iritis was made.

October 14: The mass in the anterior chamber had assumed its characteristic gelatinous appearance, filling the anterior chamber except for a small section above. The edge of the exudate, as is always the case in spongy iritis, was sharply marked and the mass could be seen to extend from the iris to the cornea, occupying the entire depth of the chamber. The size of the pupil remained about the same.

October 15: There was a still further diminution in the exudate, principally above, so that the pupil was somewhat uncovered.

October 16: All that remained of the exudate was a band about 2 mm. broad with sharp edges, occupying the center of the pupil from above downward. It had some fine offshoots connecting it with the pupillary edge above and below. The iris itself had a clean, unswollen look, the natural rugæ showing up plainly. The pupil was larger and vision was returning. There was still no acute pain complained of, only some slight frontal headache. The conjunctival injection, while pronounced, was not excessive and there was little or no chemosis.

October 17: The pupil was dilated *ad maximum* and the exudate was found to be all gone except a few spots on the anterior capsule of the lens. The fundus could be seen but rather dimly.

October 23: The lens was entirely clear and the fundus only slightly hazy, $V = 5/20$. In the course of ten days more every vestige of the disease had disappeared and vision was normal. Since then there has been no further trouble in either eye. The patient's gonorrhea has also disappeared.

Special inquiry was made as to the manifestations of rheumatism and it was found that some days before the appearance of the uncomfortable feeling in his eye he had a pain and some swelling in the joints of the big toe of the left foot. While not severe, these symptoms were present during the whole course of the eye affection.

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[1] An examination was made of all the treatises on genitourinary diseases to be found in the library of the Surgeon-General's office with the following result:

Morrow: "System of Diseases of the Genitourinary Organs," New York, 1894.. No mention. Stokes, F. W.: "Diseases of the Genitourinary Organs," London, 1892. No mention. Taylor, R. W.: "A Treatise on Genitourinary and Venereal Diseases," New York and Philadelphia, 1904. No mention. Fuller, Eugene: "Diseases of the Genitourinary System," New York, 1892. Simply mentions it. Will-Ogilvie-Lectures on Genitourinary Diseases, London, 1894. No mention. Acton, W.: "The Diseases of the Genitourinary Organs." Philadelphia, 1888. No mention. Belfield, W. S.: "Diseases of the Genitourinary Organs," New York, 1884. No mention. "American Text-Book of Genitourinary Organs." Philadelphia. No mention. Black, D. C.: "Diseases of the Genitourinary Organs," Philadelphia, 1872. No mention. Guthrie, G. J.: "Genitourinary Diseases," London, 1836. No mention. Morris, H.: "Diseases of the Genitourinary Organs," London, 1895. No mention. Hyde and Montgomery: "Syphilis and Venereal Diseases," Philadelphia, 1900. Quite a full account of eye affections occurring in gonorrhea under the heading of gonorrheal rheumatism—not, however, placed in the index separately.

E. L. Keyes and E. L. Keyes, Jr. "Surgical Diseases of the Genito-urinary Organs," New York, 1903. A full account, similar to the above, of iritis and conjunctival affections in gonorrhea, considered under the heading of gonorrheal rheumatism. Not indexed separately.

CONJUNCTIVITIS.

The existence of conjunctivitis due to an endogenous infection of gonorrheal toxins is certainly rare, and is questioned in many quarters. Before the era of close bacteriologic study it is quite possible that cases of this kind may have escaped observation, since it would be only natural to refer any conjunctival inflammation with a mucopurulent or purulent discharge to an external infection. The case here reported might easily have been classed as an ordinary gonorrheal infection of the conjunctiva had I not followed my invariable custom of examining all conjunctival discharges as to their bacteriologic character.

Patient.—R. C., white, aged 25, came to me on May 22, 1905, with a double mucopurulent conjunctivitis.

Examination.—There was but slight swelling of the lids. The cornea was clear and the iris and other internal structures normal. He first noticed a discharge from his eyes two days ago. As he confessed to having a slight gonorrhea (a second attack), an external infection was considered almost certain. Nevertheless a smear of the discharge was taken. He was given a cleansing wash, to be used three times a day. An examination of the slide by Dr. Le Merle at the Lionel laboratory at the Emergency Hospital failed to reveal any organisms of any kind. The specimen was pure mucopus.

Course of the Disease.—May 24: There was quite considerable thickening of the conjunctiva of the lids. The eyeball itself was not entirely free from infection, and there were a few fine ecchymoses of the conjunctiva near the cornea in both eyes. The discharge was about the same—not creamy, but stringy and in rolls. On May 28 another careful examination of the discharge was made, with the same result as before—no organisms of any kind whatever were found. By May 30 the discharge was much less, and the infection of the ball quite gone.

Remarks.—By June 1 the eyes were practically free from discharge, though there yet remained some thickening of the conjunctiva of the lids, particularly the lower retrotarsal folds. An inquiry into his history revealed the fact that when he had his first attack of gonorrhea, two years ago, about three weeks after the beginning and when it was in the stage of decline, he was seized with rheumatism in the left foot which laid him up for three weeks. During his present attack he has had pain and tenderness of the patellar ligaments of the left knee—not severe, but sufficient to keep him reminded that he has a knee joint.

I am aware, of course, that it may be charged that there is little evidence, beyond that of coincidence, that the conjunctival inflammation was due to an endogenous affection. An external affection, however, I think, can be positively excluded, and we should at least learn from this the importance of a bacteriologic examination in every case of purulent conjunctivitis occurring in gonorrheic patients. If no gonococci are found, the prognosis is quite different from that when their presence is demonstrated.

External inflammations of the eye in gonorrheic infection have been observed and commented on by both ophthalmic and genitourinary authors. They have generally been described as of a mild type.

Taylor, who is one of the few who mention it at all, in his "Text-Book on Genitourinary Diseases," 1904, has characterized it as "serovascular conjunctivitis." Others evidently regard it as a form of scleroconjunctival affection. No author I have been able to consult has mentioned the pronounced mucopurulent form here described. While it is quite true that most of the complications of general gonorrheal infection show themselves under the form of the so-called rheumatic inflammation, that is a plastic form affecting the fibrous structures, there are certain instances in which it assumes the purulent form, as in cases of endocarditis that have been reported. A more careful examination and observation of cases of purulent conjunctivitis in gonorrheic subjects would throw much needed light on this subject, which has an important pathologic, as well as a highly practical interest.

THE MEDICAL FEATURES OF THE PAPYRUS EBERS.*

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This is an age of inquiry in researches and excavation, with a constant craving for some new development to assist us in our studies.

The last hundred years is the Niobe of civilization, not only in inventions and productions, but in the remarkable revelations which have materially assisted us in the wonderful development in science. However, whatever we have done to advance the history of civilization was not done by an easy task.

When we look through the magnificent works of discoverers and pioneers, the fruit of hardship, trial and labor, we can not fail to be infected with some of the enthusiasm which animated those who were endowed with superior intelligence and the gift of knowledge to bring forth hidden treasures from the inmost bosom of the earth, and to transmit them to future generations. Of one of these it may well be said: "From the Orient to the Occident," great be thy name (George Ebers).

The Anglo-Saxon nations, though renowned for deep thinking, and philosophizing in every branch of science and art, can not boast of a scholarship in bringing forth the first literature of the science of medicine. A third of a century has elapsed since George Ebers revealed the pages on medicine which were written some seven thousand years ago, and which were concealed for nearly four thousand years between the legs of a mummy. With the assistance of the learned Ludwig Stern and other Egyptologists, Ebers published the fact that Hippocrates of Cos, who for twenty-three hundred years has been known to the world as the "Father of Medicine," and as an original observer, no longer possesses this distinction. It has been wrested from the ancient Greek by the discovery of this papyrus of a date so remote as almost to place Hippocrates within the ranks of modern physicians.

However great the appreciation we may manifest, it is but strictest justice to do homage to the zeal, the remarkable ability and indefatigable activity of this German scholar, whose name is attached to that elaborate work, the "Papyrus Ebers."

The revelation of this important document merits assuredly all praise. In the Ebers Papyrus we have a monument of ancient culture before us, whose medical and historical value is inestimable, as may be seen from the description of its contents.

In this complication we have the most important medical treasure of the Egyptians before us, in a more complete form than any other known work. We learn much, too, of the anatomic, physiologic, pathologic and pathologico-anatomic conception of that time. Furthermore, it gives us information concerning the methods of the examination of a patient and diagnosis of the Egyptian physicians, of methods of teaching and learning, as well as of the medical standing at that time.

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* Delivered before the Thirtieth Annual Session of the American Academy of Medicine at Chicago, 1905.

DISCOVERY OF THE PAPYRUS.

No better history can be attempted than the one given by the illustrious Ebers[1] himself, which possesses all the characteristics of a romance.

In the winter of 1872-73, George Ebers and his friend, Ludwig Stern, of the University of Leipsic spent several months at Thebes in quest of rare documents. For some time the two scientists made their dwelling place in one of the tombs of Abd-el-Gurnah, and associated daily with the Arabs of Luxor. A wealthy citizen of that place showed Ebers the antiquities which he, little by little, had obtained from a fellah, on the other side of the Nile. One day he exhibited one of those texts that are known under the name of "shai-en-sensen," and a wooden Osiris statuette in which a papyrus was well concealed. As an Arab did not trust himself to unfold the perishable manuscript, Ebers bore in mind the "shai-en-sensen," and let its high-priced possessor know that similar texts known had been found, and that he could not consider its purchase without seeing the contents of this papyrus, but that if he had anything really valuable or rare to offer him, he would not hesitate to pay him well for it. The next day the Arab sent for Ebers and took from a tin case a well-preserved papyrus roll. According to the statement of the Egyptian possessor, the papyrus was found in a tomb in the so-called Il Assiût part of the necropolis of Thebes, between the legs of a mummy. Since the finder of the latter was dead, it was impossible to refer to the exact tomb that formerly contained the treasure.

The costly manuscript was unfolded and on close inspection Ebers made the startling discovery that it was a document of great value and in an unusual condition of preservation. Ebers says he can with difficulty describe the impression that the precious, delightfully written and undamaged memorial made on him. The first lines on which his eyes fell belonged to a fragment of a calendar that he had known for a long time. This little document, so very important to the Egyptian chronology, was years ago shown to the renowned Egyptologists, Dümchen, Naville, Brugsch, Eisenlohr, and in 1870 to Ebers himself, in a copy belonging to a Mr. Smith, an American inhabitant of Luxor, who maintained that he was the possessor of an extensive medical papyrus. Because of an affection of the eyes contracted while copying inscriptions, Ebers could not study the Smith copies; hence Professor Eisenlohr of Heidelberg succeeded in obtaining a drawing (by means of tracing) of the fragment of calendar which was then regularly advertised in a periodical devoted to the Egyptian language and archæology, but without success.

Outside of the already-mentioned fragment of calendar, not a line of the papyrus was known. Mr. Smith claimed to have possessed a roll from which he had copied the fragment of the calendar, while, in reality, he possessed only a copy, which was the product of his own handwriting.

Thus Ebers knew the true possessor of the precious memorial, and he resolved from the first to obtain it. The required price was high, but not higher than that paid for less handsome papyri. The same winter an Englishman of the British Museum was traveling through Egypt, and being aware of the treasure at Thebes, intended to purchase the same from Mr. Smith, whom he believed the true possessor. Ebers longed to possess the document himself, but had not the means to meet the demands of the owner, who was not altogether aware of its full value. However, receiving the financial assistance, graciously advanced to him by Max Günther, privy councilor of commerce at Leipsic, then visiting the Egyptian monuments, Ebers purchased the treasured papyrus.

With the newly acquired treasure on board, they sailed for Cairo, where they had an opportunity to glance over the contents of the fragile roll. His friend, Professor Stern, remained behind. Ebers traveled homeward, and ended the work which he later showed and explained to His Majesty, the lamented King John of Saxony, a man of letters in the broadest sense of the term. It was finally turned over to the University of Leipsic for safe-keeping.

In order better to preserve the valuable antiquity, and so that it may be shown to the many visitors, it has been cut into twenty-nine pieces of different sizes. Each piece lies under a glass, so as to avoid pasting. Those written on both sides are placed between two glasses.

DESCRIPTION OF THE PAPYRUS.

When Ebers came into possession of the papyrus, it consisted of a single, tightly rolled piece of the finest yellow-brown papyrus. The width of the document was 30 centimeters, and the length of the written part 20.23 meters. No other papyrus known to Egyptologists is better preserved.

The text of this perfect ancient record is divided into columns, each of which is numbered. The column numbers are placed over the first line in the middle of each column, which contains either twenty-one or twenty-two lines. With the exception of columns three to twenty-one, which are considerably smaller, the columns are 22 centimeters in width, and run from 1 to 98, and in the back from 99 to 110. Singularly, the numbers 28 and 29 are missing, although the text continues uninterruptedly. The omission is explained on the ground that the Egyptians considered 110 to be a perfect number, and by this means the writer was enabled to complete his book with the required number of pages.

Dr. von Oefele believes the writer was a very fine caligraphist, but evidently a very ordinary and careless subject, and therefore carelessly skipped from number 27 to 30.

There is no lack of figures in the text, and only a few that are repeated time and again, and they are written in red to denote the quantity of the medicament to be used, while the prescriptions are in black. Another particular feature of the pagination is that up to column sixty the same hand paged the papyrus, while another scribe continued in the pagination in a different manner, although the text shows that it was wholly written by one person only. The second pagination may be the work of the physician who added his ( ) signature after many a prescription, or the purist, who wisely added his signature in paler ink, when that of the physician was omitted.

Script.—The script in which the Ebers Papyrus is written is extraordinarily regular, partly in black and partly in red ink. This form of writing is known as the hieratic, and is one of the three forms used by ancient Egyptians. The others are the hieroglyphic and the demotic. The hieratic is the cursive form of Egyptian writing, and is used chiefly on sacred and medical papyri and on wooden coffins. How early the hieratic came into use is unknown, but fragments of papyri in script with those characters have been traced to the I. dynasty. The characters are usually written from right to left. The invention of this script was attributed to Thoth (the Greek Hermes), and was in constant use up to about 100 B. C.

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[1] Papyrus Ebers, vol. 1, Leipzig, 1875.

About 300 A. D. all knowledge of the meaning of the characters had died out, and it was not until the discovery in 1799 of the Rosetta Stone (by Boussard, a French artillery officer) that any real progress was made in their decipherment.

Rubic or red occurs in almost every heading throughout the papyrus. Also in the statement of the disorder for which a medical prescription is to follow. Those headings, or rubrics, as they are called, show the use of red colors for such purposes in the most remote antiquity. Dr. Christen,[2] in a chemical analysis of this red coloring, found it to contain red lead.

Synonyms.—In the Ebers papyrus there exist a great many synonyms which are so much like the Semitic vernacular, both in expressions and pronunciations, that one is almost led to believe that the ancient Egyptian belongs to the group of Semitic tongues. The language of the papyrus with all its richness of primitive forms possesses such organic arrangements that a single word can be easily recognized, for if a branch of the same is lacking, it may be readily supplied by one from another dialect. Sometimes an abstract conception or a mental function is combined with different things or actions, perceptible through the senses; ordinarily, therefore, things are easily explained; substances of either material or spiritual character are represented according to their characteristics. Each noun contains one of those characteristics; therefore, there exist as many nouns for the same thing as there are characteristics in it. One of the characteristics of the Egyptian, as well as of the Semitic tongues, is that they had different ways to arrive at the expression of the conception, which, however, were not identical in meaning. It is difficult, therefore, to differentiate the co-existing synonyms. Philologists regard the various shades in order to explain the origin of a conception from different sides.

Age of the Papyrus.—The exact date of the writing of this papyrus has not yet been established. Carious opinions exist. The calendar which is on the outside of the papyrus refers to the eighteenth dynasty, in the sixteenth century B. C., and bears the following inscription: "In the ninth year of His Majesty the King of Upper and Lower Egypt, Amonophis I, the Everlasting." Before the last epithet is the framed name of the king.

The Date of Transcription.—According to Lenormant,[3] a royal library was established at Thebes 1670 B. C. (near the place where the Ebers Papyrus was found), under the direction of Amen-em-an, who took great pride in transcribing fragile papyri, which was at that time falling into decay. Therefore, it is possible that the Ebers Papyrus was either compiled, revised or rewritten in 1552 B. C., or 118 years after the establishment of the library. There is still another important supposition concerning the Ebers Papyrus. According to the discoverer's opinion, it is identical with the hermetic books Περὶ φαρμα'κων which are quoted by Clemens Alexandrinus.[4]

The latter is said to be the greatest of all works deposited in the tomb of Osymandias at Thebes, which, according to Diodorus Siculus, contained 20,000 volumes. Among these were the forty-two hermetic books described by Clemens Alexandrinus, six of which were medical works, on the structure of the body, on diseases, on instruments, on medicine, on the eyes, and on women.

Hermetic, which means compiled, or inspired by Thoth, was any work which was written by a priest according to the inspiration of the god, which would correspond excellently to the Ebers Papyrus. However, Lüring[5] believes that the Ebers Papyrus is much older than the book, and argues that there are certain remarkable differential points between them. Whatever may be the truth, the value of the Ebers Papyrus is the same, be it the hermetic work or a compilation from writings of prominent physicians of the earliest ages.

That the writer of the Ebers Papyrus wrote in 1552 B.C. can be proved in three ways, as Ebers[6] shows, namely, first, by the peculiar shape of the letters in which the manuscript is written; second, by the names of kings occurring in the papyrus; and third, by the calendar which we find at the back of the first column of the roll.

The name of the king in whose reign the Ebers Papyrus was transcribed, compiled or written was Amenophis I of the eighteenth dynasty.

von Oefele[7] calls attention to the fact that the language from columns 103 to 110, which are written on the back of the papyrus, is different from that of the rest of the roll, although the handwriting is the same and shows that there existed different dialects in the land of the Pharaohs, the same as exist to-day in many countries. Dr. von Oefele further states that while the style of writing in the Ebers Papyrus does not go back beyond 1600 B. C., yet the text, in other words, the idioms of the language, belong to a much older period, and that the oldest portions of the Ebers Papyrus very likely reach back into the time of the first Egyptian dynasties.

Lepsius[8] and Meyer[9] believe that it was not only written, but also compiled under the government of an unknown Hyksos king. It is thus generally accepted that the Ebers Papyrus is a copy. Moreover, the many corrections made by strange hands and the many critical, marginal notes found throughout the papyrus show that the document was worked on.

CONTENTS OF THE PAPYRUS.

A large proportion of the diseases known to modern medical science are carefully classified and their symptoms minutely described.

Mention is found of the following diseases, with their treatment:

Diseases of the Abdomen.—Abdominal tumors and swellings, obstructions of the abdomen, swellings in the inguinal region, affections of the stomach, esophagus, pylorus and small intestine, obstruction of these organs, inflammations, diseases of the liver, affections of the intestines, intestinal worms, belching, cramps, jaundice, and chlorosis—Ægyptiaca.

Diseases of the Bladder and Urinary Organs.—Obstruction of the urinary passages, cystitis, retention of urine, polyuria, hematuria, diabetes mellitus, blood in the urine, hypertrophy of the prostate, stricture, dysuria, and strangury in children.

Diseases of the Rectum and Anus.—Tumors, inflammatory abscesses, prolapsus, affections of the vessels, inflammations, obstructions, diarrhea, dysentery, constipation, and pain.

Diseases of the Chest and Respiratory Organs.—Diseases of the bronchi, affections of the lungs, asthma, phthisis, general diseases of the chest, and sequels to diseases of the stomach.

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[2] Ebers: "Die Maasse u. d. Kap. ü. Augenh., p. 71.

[3] Manuel d'Histoire Ancienne, vol. i, p. 425.

[4] Strom. vol. vi, p. 785, Section 634, ed. Potter.

[5] Die ü. d. med. Kennt., etc., p. 13.

[6] Pap. Eb., Leipzig, 1875.

[7] Prag. Med. Woch., 1905, No. 11, p. 143.

[8] Ægypt., Zeit., 1875, p. 145.

[9] Gesch. d. Alt. I, section 402.

Diseases of the Heart.—Fatty degeneration, dilatation, carditis, angina pectoris, hypertrophy, thrombosis, and anasarca.

Diseases of the Eyes.—Conjunctivitis, iritis, blear eyes, hyperemia, granulations, albugo leucoma, vascular cicatrix of the cornea, corneal opacity, staphyloma of the cornea, inflammation, myiodeopsia, hypopyon, stenosis, contractions, strabismus, xanthelasma, fatty degeneration, abscesses, chemosis, suppuration, amaurosis, amblyopia, cataract, paralysis, blepharitis, injury, calcification of the Meibomian glands, distichiasis, and trichiasis.

Diseases of the Ears.—Impaired hearing, inflammation, viscous humor, suppuration, fetid pus, and foreign bodies.

Diseases of the Nose.—Tumors, coryza, influenza, and mucus.

Diseases of the Head and Neck.—Tumors, migrain, neuralgia, shooting pains, and vertigo.

Diseases of the Scalp.—Tumors, alopecia, superfluous hair, and eruptions. There are also prescriptions to prevent hair from turning gray, to produce its growth on bald heads, to promote the growth, to make it grow on cicatrices, to depilate the scalp, to prevent white hairs from coming in the eyebrows, and to dye the hair.

Facial Diseases.—Sunburn, freckles, wrinkles, discoloration, roughness, and blotches.

Diseases of the Tongue and of the Teeth.—The ailments of the tongue are not specified, but for the teeth there are prescriptions to strengthen them, to make them grow, to heal ulcers of the gums, swelling of the gums, and bloody congestions of the teeth.

Diseases of the Skin.—Pains, pustules, prurigo, swellings, tumors with fetid suppuration, lesions, fistulas, leprosy, eczema, scabies, rashes, itching, burning, cankers, boils, carbuncles, and furuncles.

Diseases of the Blood, Arteries, Veins and Nerves.—*Distoma hematobium*, extravasations, congestion, coagulation, numbness of the vessels, loss of suppleness, and weakness of the nerves.

Sores and Wounds.—Blows that have cut the flesh, blood in the opening of the wound, gangrene, eschar formation, pus, contusions, cuts, pricks, bites of man or beast, thorns, splinters, etc., and their treatment.

Burns.—Sores which result from burns, poisonous burns, spots or white cicatrices which such sores leave, and alteration of the hair on the burnt surfaces.

Diseases of the Limbs.—Trembling, pain, swellings, stiffness, bent limbs, itching, tumors, lesions, *Filaria medinensis*, tired limbs, perspiration of the feet, sore toes, corns, bunions, callosities of all sorts, and falling nails.

Diseases of the Female Genitals.—Tumors and abscesses in the vagina, inflammation of the vagina, twinges in the vagina, chafing due to inflammation in the vagina, ulceration of the womb, pain in the labia, abscesses of the labia, menstrual disturbances, *fluor albus*, affections of the mammary glands, etc., and their treatment.

Maternity.—Methods to induce abortion, to prevent abortion, to replace a prolapsed uterus, to deliver a woman, to perform version during delivery, to deliver the placenta, to restore the vagina to its normal condition, to prevent retention of urine, and to stop hemorrhage.

Hygiene.—Deodorizations, fumigations of dwellings, perfumes for women to render odor of the house, clothing and breath agreeable, to destroy insects, reptiles, plant lice, to prevent wasps and mosquitoes from stinging, to prevent mice and rats from gnawing things, to prevent birds from eating crops, to prevent rodents from devouring corn in the granary, and to destroy lizards and scorpions.

Not only diseases producing suffering to mankind claimed the physician's care in those days, but he had also to consider the toilet. Seventy-four prescriptions pertain alone to hair washes, dyes, oils and depilatories. After duly reflecting on important anamnestic facts, on the subjective disturbances or disorders, and the objective or demonstrable changes, the physician prescribed the treatment, and a remedy which was either aimed at the principal subjective disturbance of the patient, or at the most striking objective manifested symptom, and often symptoms of the disease were regarded as the disease itself. It is not improbable that in difficult cases consultations were held.

In this papyrus are mentioned over 700 different substances from the animal, vegetable and mineral kingdoms which act as stimulants, sedatives, motor excitants, motor depressants, narcotics, hypnotics, analgesics, anodynes, antispasmodics, mydriatics, myotics, expectorants, tonics, dentifrices, sialogogues, antisialics, refrigerants, emetics, anti-emetics, carminatives, cathartics, purgatives, astringents, cholagogues, anthelmintics, restoratives, hematics, alteratives, antipyretics, antiphlogistics, antiperiodics, diuretics, diluents, diaphoretics, sudorifics, anhidrotics, emmenagogues, oxytocics, ecbolics, galactagogues, irritants, escharotics, caustics, styptics, hemostatics, emollients, demulcents, protectives, antizymotics, disinfectants, deodorants, parasiticides, antidotes and antagonists.

Medicines are directed to be administered internally in the form of decoctions, infusions, injections, pills, tablets, troches, capsules, powders, potions and inhalations; and externally, as lotions, ointments, plasters, etc. They are to be eaten, drunk, masticated or swallowed, to be taken often, once only—often for many days—and the time is occasionally designated—to be taken mornings, evenings or at bedtime. Formulas to disguise bad-tasting medicaments are also given.

The Ebers Papyrus contains numerous other subjects pertaining to the practice of medicine, which the reader will find in the text.

TRANSCRIPTION FROM HIERATIC TO HIEROGLYPHIC.

In 1874, two years after the discovery of the papyrus, at the Orientalists' Congress, held in London, a method of transcribing hieratic texts into hieroglyphics was devised. Ebers, in working on the papyrus, has followed this method in general, still he transcribed a few signs, especially those which seem to indicate vowels, independently of the London method. The latter, accepted in the main by all orientalists, has been modified in its details by all Egyptologists, so that in every work on this papyrus we meet with various interpretations of the written characters.

In 1875 Professor Ebers, with the financial support of the Royal Saxonian Ministry of Education, had reproduced *fac simile* photo-lithographic plates in size, dimension and color, in two magnificent volumes, in large royal folio, illustrated after the hieratic text.

Volume I contains an introduction written by Ebers himself, a general index of the titles of all the subjects, with explanatory notes and plates I-LXIX. Volume II contains an hieroglyphic and Latin glossary of all Egyptian words alphabetically arranged, with reference to the columns and lines where they are found, and plates LXX-CX. Much credit is due both George Ebers and his traveling companion and assistant, Ludwig Stern, librarian of the vice-royal collection of manuscripts in Egypt, for the reproduction and the translation from a language of which so little is known. The study of Egyptian literature, as a whole, is hardly more than three-quarters of a century old, and too much praise can not be given Prof. Ludwig Stern for his labor and the pains taken in the compilation of the special glossary annexed to this beautiful work, which will ever remain an honored testimonial and a monument to both immortal names.

OTHER PAPYRI AND MEDICAL ANTIQUITIES.

There are now in existence seven papyri on the subject of medicine, those at Berlin (large and small), London, Leyden, Turin, Bulak and Leipsic, the last being the Ebers Papyrus, which, because of its rich contents, the distinctness of its script and its completeness is foremost in importance.

In order to fill the vacuum between Ebers Papyrus and the writings of Hippocrates, we must not overlook the inscription on one of the "Mastabas," or tombs of Egyptian grandees, which surround the pyramids of Sakkarch, that of Sekhet-enankh, chief physician of the Pharaoh Sahura of the fifth dynasty, 3533 B. C. It describes how he healed the king's nostrils, for which his majesty wishes him "a long life in holiness"; and the compilation of medical works assigned by tradition to one of the most ancient kings, Teta, the successor of Menes of the first dynasty. Manetho,[10] the Egyptian priest and historian, tells us that this king wrote treatises on anatomy and surgery and performed surgical operations with flint flakes. About 3300 B. C., during the reign of Cheops, the builder of the great pyramid, a medical papyrus containing anatomy was found by a priest in a temple. We also know that the Egyptians practiced embalming for over 5000 years B. C., and their process surely necessitated a knowledge of anatomy. There can be no doubt, therefore, that this ancient people knew the structure of the body, and without that knowledge they could not have understood even the symptoms of the different maladies enumerated in the Ebers papyrus.

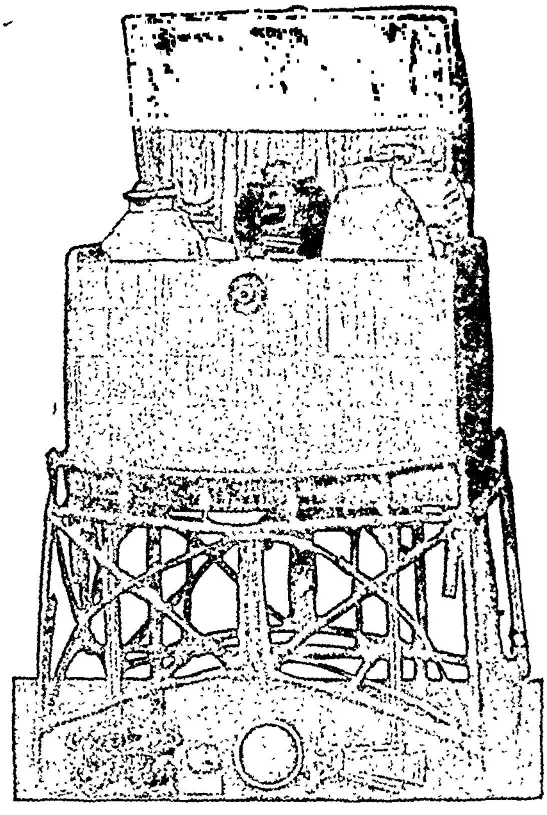

Fig. 1.—A domestic medicine chest of an Egyptian queen.

Pliny (XIX, 5) tells us that the Egyptians examined the bodies after death, to ascertain the nature of the diseases of which they died. There may have been a prejudice against it, perhaps, just the same as there is to-day, but the Egyptians did not shrink from human dissection, consequently the study of anatomy was a matter of course. However, they may not have attained the degree that we might expect in comparison with their other medical knowledge.

Another relic of Egyptian medicine is the domestic medicine chest (Fig. 1) of the wife of the Pharaoh Mentu'hotep of the eleventh dynasty, 2500 B. C. It contains six cases, one of alabaster and five of serpentine, with dried remnants of drugs, two spoons, a piece of linen cloth and some roots, enclosed in a basket of strawwork. It was found in the queen's tomb (Fig. 2).

Beginning with the earliest chronology on the existence of Moses, or his five books in the Bible, and considering the doubtful authority and the most accepted authority, namely, Josephus, who believed that Moses wrote Exodus about 1985 B. C., and Bunsen, who stated that Moses died 1523 B. C., we observe a difference of 462 years in the dates assigned to the life of Moses, hence between the two authorities we naturally come to the conclusion that the five books of Moses must have been written between 1985 B. C., and 1523 B. C. Hence, as between the oldest and the latest parts of the Ebers Papyrus lies a vast space of time, over 3,000 years, the whole dating from various epochs between 4688 B. C. and 1552 B. C., it appears reasonable to conclude that Moses knew Egyptian medicine. Medical literature was considered sacred, and therefore was carefully guarded from the profane eyes of the laity, and was only open to members of the priest class and their matriculants.

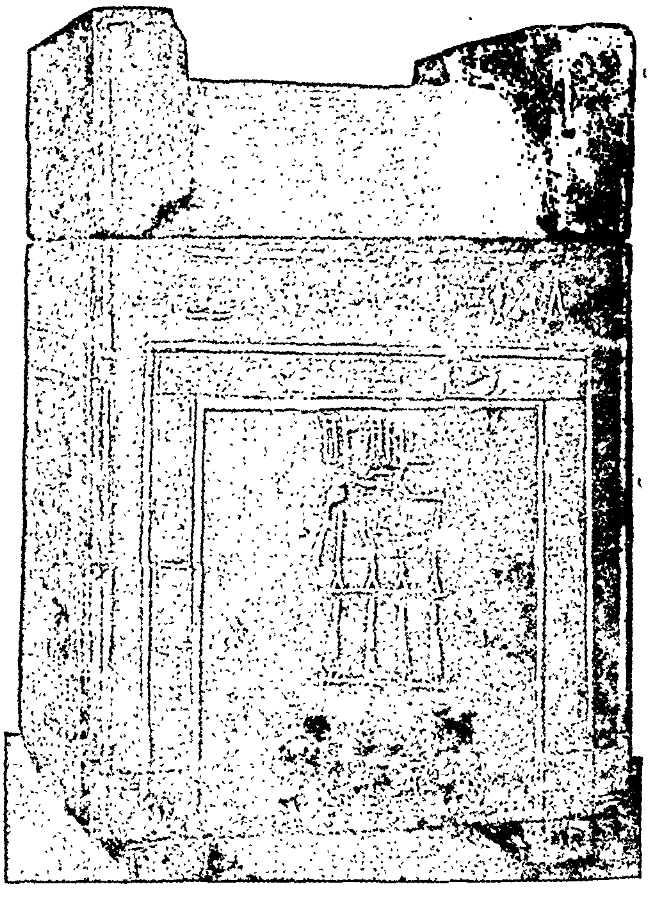

Fig. 2.—Stone case in which medicine chest was found in queen's tomb.

EGYPTIAN AND MOSAIC MEDICINE.

Moses, in whatever period he existed, was known to have resided at the court of Pharaoh, and to have received his collegiate education among the wise men of Egypt, and in the same school in which the Ebers Papyrus was written. The immortal Ebers, in his "Aegypton und die Bücher Moses," Berlin, 1868, has already shown the existing similarity of the Bible and Egyptian writings.

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[10] Ap. eund, p. 54 c.

Biblical botany no doubt originated with the Egyptians and found its way into the Mosaic writings. The same source led to the knowledge of the plant world and the most remarkable phenomena of plant life.

We find the Bible not poor in the designation of different plants and their various parts. In the very beginning (Gen. i, 11) we read: "And God said: Let the earth bring forth grass, the herb yielding seed and the fruit tree yielding fruit after his kind," etc.

Biblical Medicine.—Moses, who evidently borrowed from the writings and teachings of the Egyptians, gives us in his "five books" information of their anatomic knowledge. In the narrative of the twin birth of Esau and Jacob it is related that the latter grasped the former's heel (Genesis xxv, 26); and in the description of Jacob wrestling with the angel it is remarked that the angel touched Jacob's hollow of the thigh, and put it out of joint (Genesis xxxii, 25); and in the same chapter, verse 32, the "sinew that shrank" is spoken of.

In Exodus (xxviii, xxix) the heart, brow, shoulder, breast, lobe of the ear, hand, finger and thumb are mentioned. In Exodus (xxix, 17) dissection is mentioned, "and thou shalt cut the ram into sections"; some of the visceral portions are also mentioned, such as inwards, caul, liver, fat kidneys; skin also occurs. In Deuteronomy (xxxii, 10) the apple of the eye is mentioned, the lids (Ps. xi, 4), and eyes (Exodus xxi, 24); bones (Gen. ii, 23), and sinews (Gen. xxx, 32); teeth (Gen. xlix, 12); palate, temple (Cant. ii, 3; vi, 7). In Job (xvi, 13) we read of pouring out his "gall" on the ground.

The Bible tells us of physicians (Gen. l, 2): "And Joseph commanded his servants, the physicians, to embalm his father." Isaiah (iii, 7) mentions particularly a healer: "I will not be a healer." We also find that the Jewish prophets, as well as the Egyptian prophets, practiced the art of healing. This may be seen from the narration of a man of God who restored the paralyzed hand of King Jeroboam (I Kings, xiii, 4-6). Elijah brought to life a child, apparently dead (I Kings xvii, 17-22); and his disciple, Elisha (II Kings iv, 18-20, 34-35) performed similar miraculous cures. Isaiah (II Kings xx, 7) cured King Hezekiah of an inflammation by applying a plaster made of figs.

The Bible likewise mentions surgeons and surgery of wounds and injuries in different parts of the body, caused by various weapons—sword, arrow, hammer, etc. (II Sam. ii, 23; iii, 27; iv, 6; xviii, 14; xx, 10; Num. xxv, 8; Judges iii, 21; v, 24; I Kings, xxii, 34; II Chron. xxxv, 23; and many other places). Inflammation and abscesses (Deut. xxviii, 25, 27) are also mentioned. Wounds were treated by the application of wine or oil, bandages or sutures (Isa. i, 6; Jer. viii, 22; xlvi, ii; li, 8; Deut. xxviii, 27). Gangrene and putrid discharges (Ps. xxxviii, 6; Prov. xii, 4; xiv, 30; II Macc. ix, 9) are spoken of.

It is also evident that Moses acquired a knowledge of chemistry from the Egyptians. As Boerhaave aptly remarks, the fact that Moses knew how to reduce gold to powder so as to render it miscible with water, and by this means potable, shows he had acquired a knowledge of chemistry only to be attained by the highest masters of science and art.

The fact that apothecaries (*Rakha*) are mentioned in the books of Moses (Exodus xxx, 25-35, "after the art of the apothecary"; Exodus xxxvii, 29, "according to the work of an apothecary"; Ecclesiastes x, 1, "the ointment of the apothecary;" II Chronicles xvi, 14, "prepared by the apothecaries' art"), and the compounded prescriptions in the Ebers Papyrus, furnish us evidence that a distinct class of apothecaries existed among the ancient Egyptians, who were cultivated pharmacists.

Certainly more competency was required of the ancient pharmacists than of those of our day, for the former had to make their own pills, extracts, infusions, etc., as we can find no proof that there existed manufacturing chemists. Their prescriptions were composed of many ingredients and many remedies. Of the 108 columns in the Ebers Papyrus, seven were devoted to tænia alone.

There can hardly be a doubt that the Ebers Papyrus existed prior to the exodus of the Israelites, and that the Biblical medicine embodied in the so-called Torna shebacsab (written law) had its origin in the valley of the Nile.

Post-Biblical Medicine.—Beginning with the post-Biblical history of medicine, we have the script, which was discovered 623 B. C., but which may have been handed down by oral tradition for many centuries before, and which is called Torha shebalpæ, or oral law. In this work is found a book on medicine (saphar raphout), containing classifications of plants, trees, etc., and their habitations.

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The subdivision of the medical profession which prevailed among the Egyptians must have had a tendency, in some respects, to advance medical knowledge by specializing it. If we review the contents of the Papyrus, we can not but admit that the Egyptian physicians were well advanced in ophthalmology. The collection of Hippocrates, edited 4,000 years later, did not contain more don, Leyden, Turin, Bulak and Leipsic, the last being the Ebers Papyrus, which, because of its rich contents, the distinctness of its script and its completeness is foremost in importance.

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[11] Odyss., vol. iv, pp. 228-230.

In order to fill the vacuum between Ebers Papyrus and the writings of Hippocrates, we must not overlook the inscription on one of the "Mastabas," or tombs of Egyptian grandees, which surround the pyramids of Sakkareh, that of Sekhet-enankh, chief physician of the Pharaoh Sahura of the fifth dynasty, 3533 B. C. It describes how he healed the king's nostrils, for which his majesty wishes him "a long life in holiness"; and the compilation of medical works assigned by tradition to one of the most ancient kings, Teta, the successor of Menes of the first dynasty. Manetho,[10] the Egyptian priest and historian, tells us that this king wrote treatises on anatomy and surgery and performed surgical operations with flint flakes. About 3300 B. C., during the reign of Cheops, the builder of the great pyramid, a medical papyrus containing anatomy was found by a priest in a temple. We also know that the Egyptians practiced embalming for over 5000 years B. C., and their process surely necessitated a knowledge of anatomy. There can be no doubt, therefore, that this ancient people knew the structure of the body, and without that knowledge they could not have understood even the symptoms of the different maladies enumerated in the Ebers papyrus.

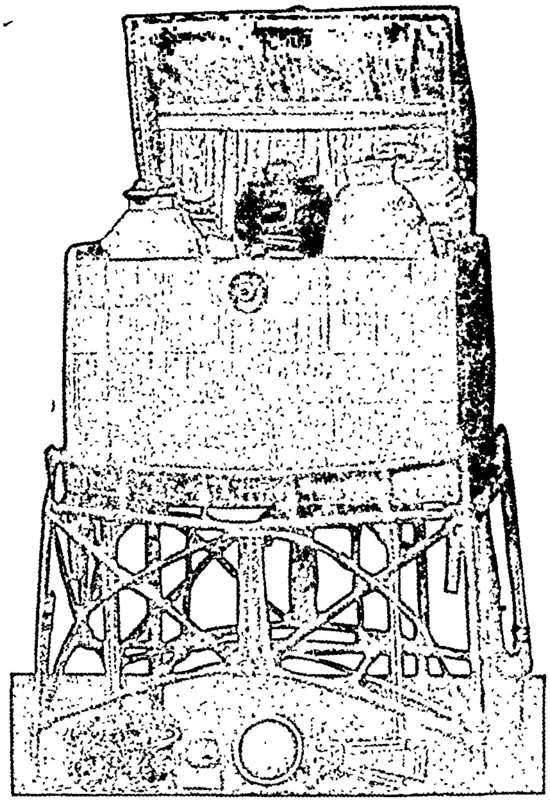

Fig. 1.—A domestic medicine chest of an Egyptian queen.

Pliny (XIX, 5) tells us that the Egyptians examined the bodies after death, to ascertain the nature of the diseases of which they died. There may have been a prejudice against it, perhaps, just the same as there is to-day, but the Egyptians did not shrink from human dissection, consequently the study of anatomy was a matter of course. However, they may not have attained the degree that we might expect in comparison with their other medical knowledge.

Another relic of Egyptian medicine is the domestic medicine chest (Fig. 1) of the wife of the Pharaoh Mentu'hotep of the eleventh dynasty, 2500 B. C. It contains six cases, one of alabaster and five of serpentine, with dried remnants of drugs, two spoons, a piece of linen cloth and some roots, enclosed in a basket of straw-work. It was found in the queen's tomb (Fig. 2).

Beginning with the earliest chronology on the existence of Moses, or his five books in the Bible, and considering the doubtful authority and the most accepted authority, namely, Josephus, who believed that Moses wrote Exodus about 1985 B. C., and Bunsen, who stated that Moses died 1523 B. C., we observe a difference of 462 years in the dates assigned to the life of Moses, hence between the two authorities we naturally come to the conclusion that the five books of Moses must have been written between 1985 B. C., and 1523 B. C. Hence, as between the oldest and the latest parts of the Ebers Papyrus lies a vast space of time, over 3,000 years, the whole dating from various epochs between 4688 B. C. and 1552 B. C., it appears reasonable to conclude that Moses knew Egyptian medicine. Medical literature was considered sacred, and therefore was carefully guarded from the profane eyes of the laity, and was only open to members of the priest class and their matriculants.

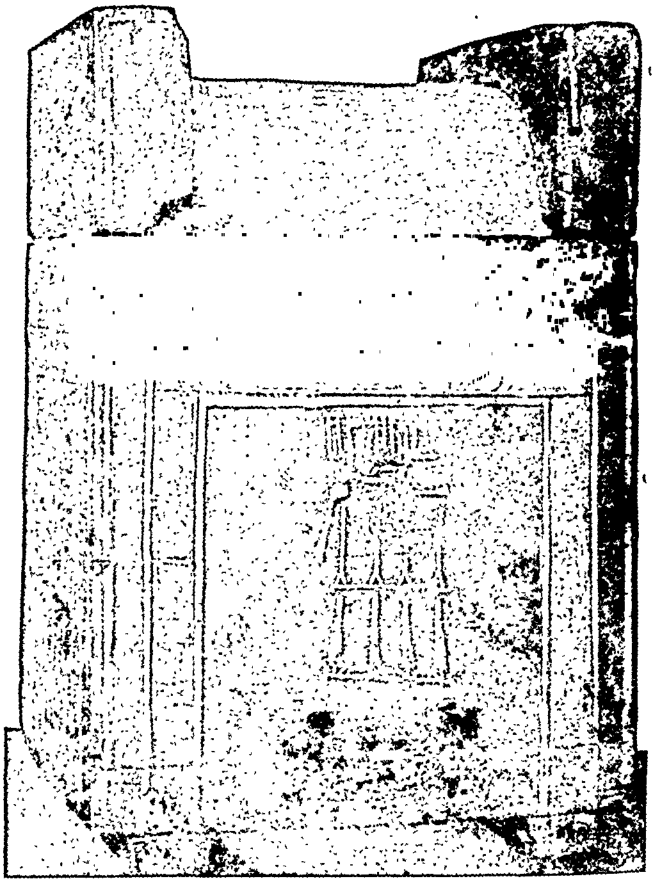

Fig. 2.—Stone case in which medicine chest was found in queen's tomb.

EGYPTIAN AND MOSAIC MEDICINE.

Moses, in whatever period he existed, was known to have resided at the court of Pharaoh, and to have received his collegiate education among the wise men of Egypt, and in the same school in which the Ebers Papyrus was written. The immortal Ebers, in his "Aegypton und die Bücher Moses," Berlin, 1868, has already shown the existing similarity of the Bible and Egyptian writings.

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[10] Ap. eund, p. 54 c.

Biblical botany no doubt originated with the Egyptians and found its way into the Mosaic writings. The same source led to the knowledge of the plant world and the most remarkable phenomena of plant life.

We find the Bible not poor in the designation of different plants and their various parts. In the very beginning (Gen. i, 11) we read: "And God said: Let the earth bring forth grass, the herb yielding seed and the fruit tree yielding fruit after his kind," etc.

Biblical Medicine.—Moses, who evidently borrowed from the writings and teachings of the Egyptians, gives us in his "five books" information of their anatomic knowledge. In the narrative of the twin birth of Esau and Jacob it is related that the latter grasped the former's heel (Genesis xxv, 26); and in the description of Jacob wrestling with the angel it is remarked that the angel touched Jacob's hollow of the thigh, and put it out of joint (Genesis xxxii, 25); and in the same chapter, verse 32, the "sinew that shrank" is spoken of.

In Exodus (xxviii, xxix) the heart, brow, shoulder, breast, lobe of the ear, hand, finger and thumb are mentioned. In Exodus (xxix, 17) dissection is mentioned, "and thou shalt cut the ram into sections"; some of the visceral portions are also mentioned, such as inwards, caul, liver, fat kidneys; skin also occurs. In Deuteronomy (xxxii, 10) the apple of the eye is mentioned, the lids (Ps. xi, 4), and eyes (Exodus xxi, 24); bones (Gen. ii, 23), and sinews (Gen. xxx, 32); teeth (Gen. xlix, 12); palate, temple (Cant. ii, 3; vi, 7). In Job (xvi, 13) we read of pouring out his "gall" on the ground.

The Bible tells us of physicians (Gen. l, 2): "And Joseph commanded his servants, the physicians, to embalm his father." Isaiah (iii, 7) mentions particularly a healer: "I will not be a healer." We also find that the Jewish prophets, as well as the Egyptian prophets, practiced the art of healing. This may be seen from the narration of a man of God who restored the paralyzed hand of King Jeroboam (I Kings, xiii, 4-6). Elijah brought to life a child, apparently dead (I Kings xvii, 17-22); and his disciple, Elisha (II Kings iv, 18-20, 34-35) performed similar miraculous cures. Isaiah (II Kings xx, 7) cured King Hezekiah of an inflammation by applying a plaster made of figs.

The Bible likewise mentions surgeons and surgery of wounds and injuries in different parts of the body, caused by various weapons—sword, arrow, hammer, etc. (II Sam. ii, 23; iii, 27; iv, 6; xviii, 14; xx, 10; Num. xxv, 8; Judges iii, 21; v, 24; I Kings, xxii, 34; II Chron. xxxv, 23; and many other places). Inflammation and abscesses (Deut. xxviii, 25, 27) are also mentioned. Wounds were treated by the application of wine or oil, bandages or sutures (Isa. i, 6; Jer. viii, 22; xlvi, ii; li, 8; Deut. xxviii, 27). Gangrene and putrid discharges (Ps. xxxviii, 6; Prov. xii, 4; xiv, 30; II Macc. ix, 9) are spoken of.

It is also evident that Moses acquired a knowledge of chemistry from the Egyptians. As Boerhaave aptly remarks, the fact that Moses knew how to reduce gold to powder so as to render it miscible with water, and by this means potable, shows he had acquired a knowledge of chemistry only to be attained by the highest masters of science and art.

The fact that apothecaries (*Rakha*) are mentioned in the books of Moses (Exodus xxx, 25-35, "after the art of the apothecary"; Exodus xxxvii, 29, "according to the work of an apothecary"; Ecclesiastes x, 1, "the ointment of the apothecary;" II Chronicles xvi, 14, "prepared by the apothecaries' art"), and the compounded prescriptions in the Ebers Papyrus, furnish us evidence that a distinct class of apothecaries existed among the ancient Egyptians, who were cultivated pharmacists.

Certainly more competency was required of the ancient pharmacists than of those of our day, for the former had to make their own pills, extracts, infusions, etc., as we can find no proof that there existed manufacturing chemists. Their prescriptions were composed of many ingredients and many remedies. Of the 108 columns in the Ebers Papyrus, seven were devoted to tænia alone.

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[11] Odyss., vol. iv, pp. 228-230.

Up to a recent period our knowledge of Egyptian medicine was gathered solely from scattered passages from great writers. Praxagoras (though from Cos, the town where Hippocrates was born, and where the temple of Esculapius was built, lived in Egypt), of whom Galen speaks as the greatest symptomologist and diagnostician, and quotes his treatment for acute diseases, and especially gymnastics, was the teacher of Herophilus (400 B. C.), the first anatomist who made postmortems on cadavers. The former went to Egypt for his medical learning, and established a school for Greek physicians; the latter went for the same purpose and founded a system of pathology.

We have a continuous history of Egypt to the extent of about 5,000 years B. C., and a prehistoric account of 2,000 and a continuous culture known to us to cover about 2,000 years more, hence our continuous knowledge probably extends back to about 9000 B. C.

The Ebers Papyrus, therefore, opens a new era for the history of medicine and pharmacology. The work discloses an astonishing knowledge of a great variety of remedies, and shows that four or five thousand years before Christ there were learned men in Egypt who could make intelligent observations of disease, combine complicated prescriptions and use them with judgment. It is hardly possible to exaggerate the literary, scientific and historical importance of this wonderful papyrus, the most complete compendium of Egyptian medical science that is left to us, and we must acknowledge the fact that the copy of the Ebers Papyrus is the genesis of medicine.

TRANSLATION.

My sole purpose in translating the "Papyrus Ebers" into the English language is identical with that of the illustrious Ebers himself, namely, to bring out the origin and to cultivate the prehistoric knowledge of medicine, and to show that there existed in ancient Egypt nearly 7,000 years ago a civilization in which medical knowledge was in a high state of cultivation and in which the foundation of our present system of medicine was established. A careful study of this papyrus will convince the student that the medicine of to-day is essentially the medicine of the ancient Egyptians. Certainly it was in a crude state and on the same footing as our wearing apparel, both in custom and in fashion. Man has always covered his nakedness from the day that Adam ate of the apple. Garments have developed from the leaf covering to our present style of dress. In our latest advancement of civilization we have doffed the turban and donned the hat; we have cast aside the chiton and have clad ourselves in the frock; we have dispensed with the kilt and adopted trousers; we have thrust aside the sandal and have replaced it with the shoe. A similar evolution has taken place in medicine. New garbs adorn anatomy, physiology, pathology, botany, chemistry and materia medica in general, but the fundamental principles of curing disease still remain the same. Even the various methods in the practice of medicine have not changed. From all historical accounts and from the contents and language of this papyrus, we have evidence that the ancient Egyptians had three different classes of physicians—the regulars, the priest physicians and the conjurers, just the same as we have to-day. Our advancement consists merely in a greater variety. We have regulars, irregulars, faith healers and many others, too numerous to mention.

In my translation I have added commentary notes, the aim of which is to establish the fact that medicine up to, and from, the time of Hippocrates until the present day has been built on the foundation of that of the ancient Egyptians.

It was with great hesitancy that I entered on this very difficult task, by reason of a real distrust of my own ability. My knowledge of Egyptology is but superficial, and yet I have been greatly encouraged by medical men in various parts of the world, to whom I had communicated my intention. On their advice, therefore, I venture to offer this work, not only to fill a hiatus in our medical history, but to bring forth for the first time in the English language the ancient treasure of medical knowledge, namely, "Papyrus Ebers," translated from the original, utilizing the labors of Ebers, Stern, Brugsch, Chasbas, Dümchen, Ermann, Lüring, Lieblein, Joachim, von Oefele, Hirschberg, Scheuthauer, Schäfer, Proksch, Lange, Piehl and many other renowned Egyptologists.

The assistance of the above-named scientists, whose labors cover a period of over thirty years, and their criticisms of one another have enabled me to produce probably the best translation in a modern tongue. I have borrowed from these eminent minds not as a plagiarist, but as a kleptomaniac, who steals for the benefit of others. In no place have I failed to acknowledge the theft by a footnote; therefore, I can only appeal for mercy to those who are always ready to engineer some method of criticism, be it just or unjust. I have spared no pains to render the translation as accurate as possible. In a work involving such an infinity of details and interpretations, doubtful to even more scholarly Egyptologists, it would be unreasonable to expect that no errors or misinterpretations would occur.

While the outline of my work is as crude as that of a pioneer, I trust it will serve the labors of others who are more accomplished.

I now come to that which is to me the most painful part of my duty; that is, to inform you that the immortal Ebers had worked on a translation for a period of twenty-five years. His death, however, unhappily cut short his labors. On opening his last will and testament it was found that in case of death the manuscript was to be burned; accordingly, his will was carried out.

In conclusion, gentlemen, allow me to acknowledge my sincere gratitude to Baron von Oefele, the greatest living medical Egyptologist and ancient medical historian, for his consent to review and to correct my translation of the "Papyrus Ebers" before its publication. I also wish to express my thanks to my daughter, Edith, who for seven long years has labored by my side, inspired not merely by the devotion of filial love, but also by the same interest and purpose as that of her father, namely, to cultivate medical history and to elevate the standing of the humane and noble profession of medicine.

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[12] British Med. Jour., April 8, 1893.

70 Bellevue Place.

THE WATER SUPPLY IN SHIPS FROM ITS BEGINNING TO THE PRESENT TIME.*

HENRY G. BEYER, M.D.
Medical Instructor U. S. Navy.
WASHINGTON, D. C.

(Concluded from page 1852.)

CHANGES IN OUR PRESENT METHOD OF STORING AND DISTRIBUTING WATER, RECENTLY PROPOSED.

Certain well-marked sanitary defects inherent in our present methods of storing and distributing water on shipboard must have been noticed by every thoughtful naval surgeon, no matter how brief his experience at sea. These defects concern the water tanks, the pipe connections and the scuttlebutt. To begin with, one fundamental difficulty about the water tanks, located as they are, near the bottom of the ship, is, that it is at times almost impossible for a man in the hold to distinguish the one containing merely feed or other utility water from the one containing distilled water for drinking. Since much might depend on this under certain circumstances, measures should be taken to prevent such a mistake from occurring. A radical remedy has recently been suggested by Couteaud and Girard,[12] who recommended the establishment of two separate holds, one in the forward part, the other in the after part of the ship; one for utility water, the other for distilled water. Again, the danger of drinking water becoming mixed with utility water on board ship is not alone dependent on a mistake in the tanks; it may likewise be traced to faulty pipe connections, as was shown in a recent experience of mine in this instance, the drinking water, as well as the salt water, were circulating in one system of pipes, separated from one another only by certain cut-out valves. The consequence was that neither sweet water nor salt water could be drawn without taking part of the other into the bargain. Since the quantity of salt water thus added to the sweet water in both kitchen and pantry was very large; and since, moreover, the salt water, in this instance, was in fact undiluted sewage drawn from the harbor of one of our navy yards, it could not help being quickly discovered and remedied. One such experience ought to suffice to show the great necessity for the widest possible separation of both tank and pipes carrying utility water from those carrying distilled water. Each should circulate in its own separate system of pipes and be independent of cut-out valves.

Dr. Le Méhauté, in the article referred to above, has placed the whole subject in an entirely new light before the naval medical profession. He has clearly pointed out present defects and suggested means to remove them. The objects to be aimed at are: (1) The protection of the water from impurities that may originate in the present reservoirs and pipes themselves; (2) its protection from the impurities liable to get into it from the outside; (3) the providing of a method for the disinfection of tanks and pipes.

The measures which Le Méhauté suggests to meet these various demands are as follows: (1) Simplify the pipe system and remove all unnecessary parts of it; (2) hermetically seal the entire system and make the water circulate in a closed system of vessels; (3) protect the metallic sides of the system against attacks by water; (4) provide a method to disinfect the system which shall be simple, efficacious and always at hand; (5) adopt steam under pressure as a means for disinfecting the pipes.

It certainly would seem obvious that by reducing the length of the distributing pipes and by removing all unnecessary parts of the system the danger from inside impurities can be materially decreased. Since, perhaps, the greatest danger from impurities lies outside the system, the hermetic sealing of the entire system, from the tanks to the fountains, would almost suggest itself. The dangers lurking around the water tanks from outside contaminations must have suggested themselves to every inspecting officer who has seen them and appreciated them but once. The changes recommended by Le Méhauté as regards the construction of these tanks, in view of these dangers, would seem to be most opportune and very much to the point. They are: (1) Place the manholes on the side instead of at the top of the tanks; (2) provide every tank with a metallic aspirating tube permanently fixed to one of its sides and closed outside by a screw plug; (3) ventilate the tanks through an **L** shaped pipe, provided at the lower outside end with a tampon of absorbent cotton to filter the air; (4) keep the upper surface free, closed and unencumbered; (5) slightly incline the bottom surface to allow of the accumulation of any deposit of possible iron rust and provide a purging spigot at the most dependent part of the bottom of the tank for an easy removal of the solid impurities collected there. Another suggestion deserving attention in this connection is the one made by Couteaud and Girard.[13] These authors would reduce the large number of small tanks, at present in use, into a small number—say three or four—of large reservoirs or cisterns, containing up to 14 or 15 tons of water each and place them between the two protective decks. They are also in favor of placing the manhole on the side instead of on top.

These suggestions are sound, and every naval sanitarian will endorse them without much hesitation. The hermetic sealing of the pipe system would naturally make disinfection sometime a necessity and hence provision must be made for it. Since it would involve a great deal of difficulty to take the system apart for such a purpose, the method of steam disinfection suggested is the one practically applicable method. For the purpose of disinfecting the tanks, the soldering lamp is no doubt the best means. Whether it is that the pipes are choked up mechanically with iron rust or coal dust, or, whether infected water has passed through them, the method of steam disinfection is equally applicable.

Thus, it will be seen, that hygiene has become exacting. It cannot rest content with half-way measures because these do not meet her ends. It is due to half-way measures that some much useless time and money-wasting experimenting has been done in the past, as we have seen, without producing the desired results. It is also evident that the hermetic sealing of the whole water circulating system and the modifications in the construction of the tanks, as recommended by Le Méhauté, must insure a faultless product inside of them.

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[12] L'Hygiene dans la Marine de Guerre, Paris, 1905.

* Read in the Section on Hygiene and Sanitary Science of the

Having thus far obtained a perfect water inside of our tanks and pipes, we must aim to get it inside the sailors' stomachs in the same uncontaminated condition. To this end, the scuttlebutt system is the next detail to be improved.

DISTRIBUTION OF WATER.

The problem involved in the process of conducting drinking water from the tanks to the individual in an absolutely pure and uncontaminated condition has never until recently been approached courageously and seriously. It is held by some that the greatest and gravest danger lies in the manner of distributing water on board ships; that infectious diseases are more often transmitted and epidemics spread and kept alive through the common drinking cup than in other ways. Even the individual drinking cup appears to have proved a failure and has been abandoned where it was used formerly, because, if the men did not lose it, they would loan it to one another and thus defeat its very object.

To-day, men in most of our ships get their drinking water from what is called the "scuttlebutt." This is a wooden barrel-shaped vessel, somewhat broader below than above, provided with a brass spiggot near the bottom and varying in size with the size of the ship and in number with the number of men on board. On large ships several of these are placed in convenient places. A common drinking cup of some metal is attached to the spigot by a small chain and this the men use to get their water. At one time the interior of the scuttlebutt was divided into an upper and lower carbon, spongy iron, etc., and the lower compartment containing filtered water. At one time, a long stationary metallic tube was inserted, the lower end being immersed in the water, the upper bent into a right angle and terminating in a mouthpiece through which the men were obliged to suck up their water. This method was in general use in the French navy from 1819 to 1850, when the order was passed for mouthpieces to be made of glass; these breaking too easily, the mouthpieces were ordered to be made of iron, of lead and still others of wood. None of these ever proved entirely satisfactory. In 1809 Lefèvre says of the custom of using the mouthpieces, then in general use: "Besides the repugnance which such a method must inspire of being obliged to take into your mouth a nozzle which was a moment before in that of another, does not this practice open the way for the transmission of contagious diseases from one man to another?" And indeed Fonessagrives had already then recommended that these mouthpieces be made detachable and that they be immersed in water before being used. Bressanin likewise recommended immersion in water. Others recommended a detachable mouthpiece, one that could be increased in the suction pipe of the scuttlebutt and was attached to each person by a cord so as to prevent the wearer from either leaving it attached to the mouthpiece or losing it, or even lending it to another. According to Couteaud and Girard, the scuttlebutt in use in France is made of iron, lined with rubber; it has a spiggot to which the common metallic drinking cup is attached with a chain. They recommended the substitution of a *biberon a bec* for the cup. These *becs*, after being used, to be put into a basin where a jet of hot water may disinfect them. The particular mouthpiece they refer to is made of iron and was designed by chief mechanic Estève of the *Iena*. According to Belli,[14] Dr. Carbone has actually succeeded in getting the individual cannula adopted on board the *Pisani*. On this ship every man is provided with a mouthpiece of bone which he attaches to the scuttlebutt whenever he wishes to quench his thirst. An arrangement of three small elevations around the opening of the pipe at the scuttlebutt obliges the man to use his own mouthpiece to get water. While Belli is convinced that this method is theoretically a good one, in practice, it has shown to have several disadvantages.

The cannulas become clogged easily from dirt in the pockets of the men; they also can be passed from one to another, just as the individual drinking cup. Belli raised the question as to the necessity of all men being obliged to get their water by suction. Indeed, since the necessity for so great an economy, as was practiced in former years, on long voyages, has entirely made way for a more liberal distribution of water, this question is very much in order. Belli wants these suction arrangements abolished and thrown on the scrap heap. In the U. S. Navy this arrangement has never been popular, but the common drinking cup is in general use.

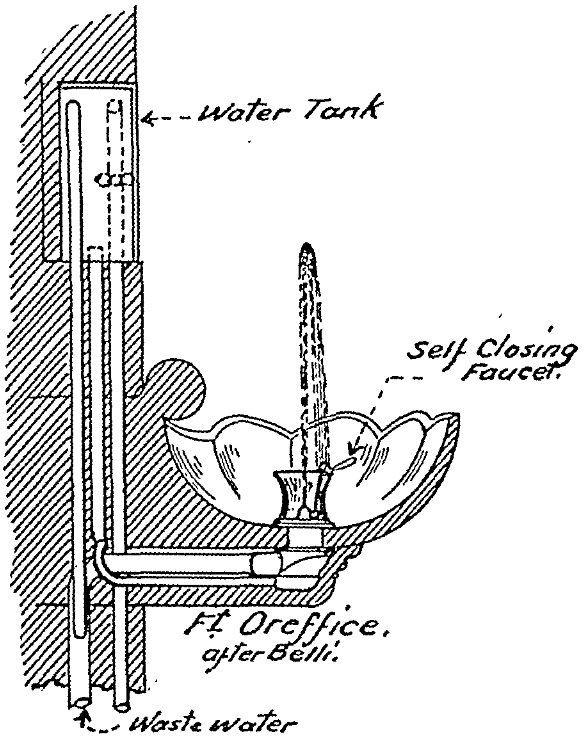

Fig. 7.—Showing water tank and self-closing faucet.

Within recent years, water fountains have been recommended for use on board ship to take the place of the old scuttlebutt. Since, with these fountains alone, the question of the common or individual drinking cups remains the same, only special fountains can come up for consideration. The need for a hygienic distribution of water on board ship is very much the same as it is in the case of public schools and other public places. In 1894 an Italian engineer named Torelli exhibited a fountain at the National Exposition at Milan. This fountain is in actual use in the public schools of Milan. It consists of several little spouts fed by water under pressure and arranged in a circle inside of a basin. Each orifice is protected by a funnel, 15 cm. in height, perforated at the bottom and not permitting the drinker to touch the orifice with his mouth or with his fingers. In drinking the boys simply lean over the spout and allow the water to flow into their mouths. A similar fountain has been constructed by Dr. F. Accorimboni for the normal schools at Foligno in which the jet projects horizontally (Fig. 8) and in which the nozzle is protected from contact with the drinker's lips by a metallic screen.

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[14] M'Belli, Innovazioni igieniche sulle nave da guerra—ann. di mod. navale. Annovifasc, vol. III, 1900.

The fountains of Milan and of Foligno, however, are without a regulator and the water flows constantly. Such a regulator is found on the fountains designed by the engineer, Oreffice, and introduced by him into all the public schools of Padova and Venice (Figs. 7 and 9). The little jet is provided with a spring lock which the drinker opens at will and which closes automatically, thus avoiding unnecessary waste of water. The little short orifice is protected by a conical cup, the upper margin of which is armed with a metallic fringe which does not permit the drinker to approach it with his lips. The slight overflow rinses the walls of the cup and passes directly into the waste pipe.

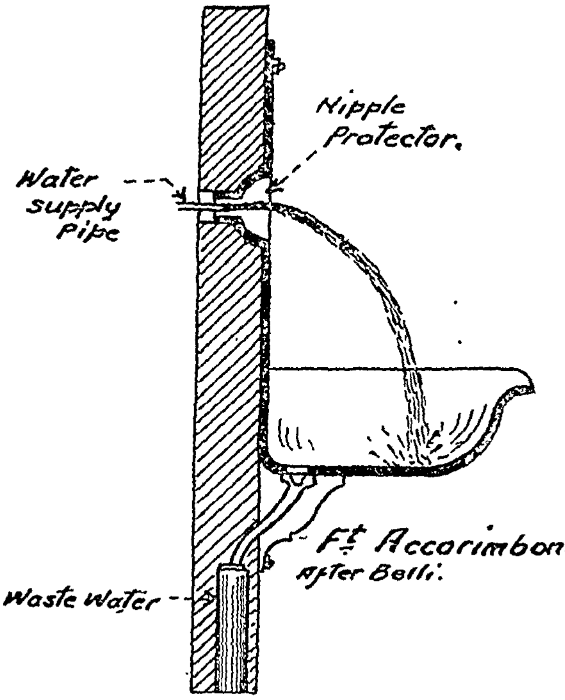

Fig. 8.—Drinking fountain designed by Accorimboni.

Belli suggests that the advantages of these two fountains combined might, perhaps, be adapted to ship's use. A proper combination, no doubt, would do away with the risk of infection and at the same time insure the economical use of drinking water.

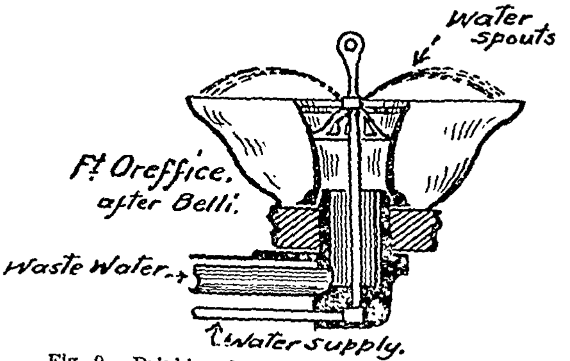

Fig. 9.—Drinking fountain devised by Oreffice.

It certainly has become highly desirable that the old-fashioned scuttlebutt with the common drinking cup as now in common use in the navy be displaced by some form of reservoir of distribution, answering to the present requirements of personal hygiene. Since it has become recognized beyond question that the common drinking cup is one of the worst means of spreading contagious diseases on board ship, efforts are now being made in almost all the navies of the civilized world to do away with it.

Le Méhauté is very strongly in favor of the individual pipette. The fountain which he prefers is shown in the adjoining Figure 10, which shows the pipettes in place. He proposes that a number of these pipettes, duly sterilized, be placed in a vessel near the fountain where any man may take one, put it in place, drink and then put it into another vessel, where it remains until again sterilized by boiling in soda.

DISTILLED OR STERILIZED WATER.

An important sanitary question has only recently been raised by Le Méhauté[15] of the French navy. The question asked by Dr. Le Méhauté is whether it shall be distilled or sterilized water that is used on vessels of the navy or whether both be used under a given set of circumstances and conditions. This question is important and destined to receive considerable attention by naval sanitarians in the near future.

It is, of course, of fundamental importance to hygiene to furnish such a water as shall in composition correspond as nearly as possible to a natural, unpolluted drinking water. There is no longer any doubt about the fact that distilled water for ship's use is no such absolute necessity as it was in years gone by. Since the wooden casks have been generally done away with and a cement lining for iron tanks was adopted, water put into them no longer putrefies, but keeps sweet for an almost indefinite length of time. Most of the large passenger steamers have, for many years past, taken their water supply directly from the water mains of the port in which they happened to be and filled their tanks and double bottoms with it. Steamers rarely resort to distillation, though legally obliged to carry distillers on board, on account of the short duration of the voyages they make. Although vessels of war invariably carry distillers, they, too, fill up with sweet water before leaving port and distill only on long voyages and after their sweet water supply has begun to give out.

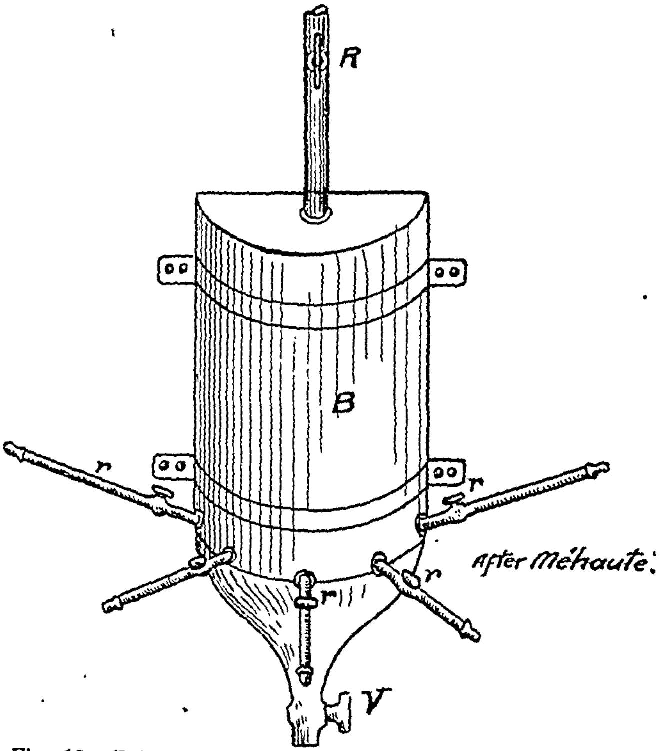

Fig. 10.—Drinking fountain favored by Méhauté, showing the pipettes in place.

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[15] Arch. de Medicine Navale, Nos. 9 and 10, 1904.

It must be admitted, perhaps, that a sterilized water is more nearly a natural water than is distilled water and as such deserves the preference. The general desire on the part of all civilized governments at present is becoming more and more evident, namely, to make every effort to surround their men-at-arms, whether ashore or afloat, with the most sanitary conditions possible. Already the French war department has begun to introduce water sterilizers in large numbers into the soldiers' barracks, and naval stations are being supplied with them. Le Méhauté strongly urges the introduction of sterilizers into the navy, arguing as follows: "Certain vessels of the navy are destined to remain for a long time on foreign stations and others are obliged to make long cruises, visiting places in which the supply of water is not always good. For such ships distilled water is a necessity. Many other ships, however, stay on the home station or visit places in which the water supply leaves nothing to be desired and where, consequently, these ships may supply themselves with all the water they need. Such water, to eliminate the last possible chance of doubt, need only be sterilized." Méhauté, moreover, says of sterilized water that it bears the same relation to distilled water as does natural food to unnatural or canned food and that it would be both unwise, uneconomical and unhygienic to drink distilled water or to eat canned food when the more natural products were available.

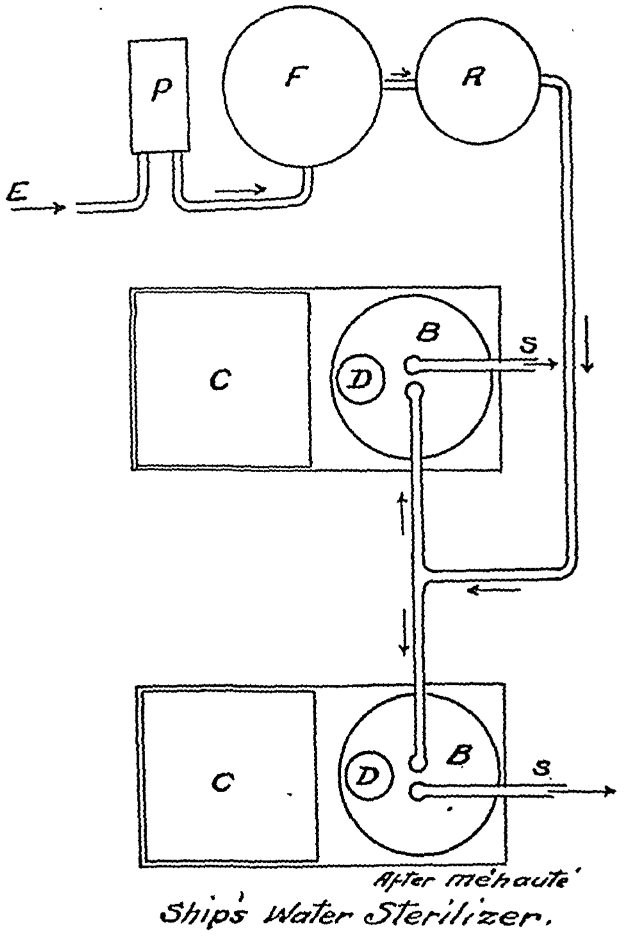

Fig. 11.—Showing the principles of the sterilizer which Méhauté proposes for adoption. P, water reservoir; F, pressure filter; B, where hot water gives off heat to incoming cold water; C, the heater; D, apparatus where precipitates are removed; E, where water enters; S, where sterilized water makes its exit.

The principal reasons for substituting sterilized for distilled water, in which we must all agree, are three: (1) Distilled water is expensive and sterilized water is not. (2) Distilled water is not a natural water; sterilized water answers more nearly to that description than does distilled water and should, therefore get the preference. (3) Distilled water is often offensive; sterilized water is never offensive and always safe, being germ free. Certain objections have, however, been raised against the introduction of sterilizers by Couteaud and Girard,[12] the principal ones of which are the following: (1) The inconvenience of having on board two systems of water purification, since distilling can not be done away with and must remain the last resource; (2) the sterilizers have not worked well either in France or China, where they were used during the campaign of 1900-1901, on account of the hard Chinese waters (Jacquemin). It is also not inconceivable that the different parts attached to the sterilizer might become sources of infection.

According to Le Méhauté, the sterilizer Salvator can be made to produce one ton of water at 7 centimes in French money. Professor Vaillard, at Val de Grace, has calculated that two kg. of coal furnished 2,000 liters of sterilized water, while the quantity of distilled water cost 7 francs the ton. According to Couteaud and Girard, Chief Engineer Danoy has made some calculations on the Iena that would not seem quite so favorable. He calculates that one kg. of coal burned in the furnace would sterilize $\frac{5176 \text{ cal.}}{170 \text{ cal.}} = 30$ kg. of water. This same kg. of coal would produce 5 kg. of distilled water; that is, 1/6 the quantity of sterilized water. The actual daily expenditure in sweet water on board the ship was 9,000 liters, of which 800 liters were distilled water used for drinking. These last cost the state $\frac{800}{5} = 160$ kg. of coal. If it was necessary to sterilize all the 9,000 liters of sweet water, the cost in coal would amount to $\frac{9000}{5 \times 6} = 333$ kg., or just twice the amount required to distill the 800 liters of drinking water.

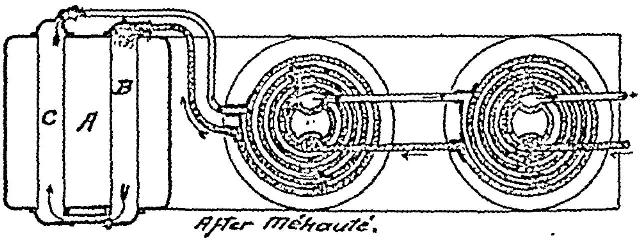

Fig. 12.—This represents schematically the circulation of the water in the recuperator.

The adjoining diagram (Fig. 11) is intended to show the principles of the sterilizer which Le Méhauté proposes for adoption. In this scheme P represents the water reservoir, F the pressure filter, R the accumulator, B where the hot water gives off its heat to the incoming cold water, C is the heater, D is an apparatus in which the precipitates are removed, E shows where the water enters, and S where the sterilized water makes its exit.

Providing a double sterilizer is installed, each one working independently of the other, no check in the process need be apprehended. The heat required for sterilizing comes in the form of steam from one of the main boilers.

The only part of this sterilizer needing special description is the recuperator (B), in which the sterilized hot water parts with its heat, transporting it to the incoming current of cold water. This piece of apparatus it is intended for the adjoining diagram to illustrate and make intelligent.

Figure 12 represents schematically the circulation of the water in the recuperator. The white spiral shows the course which the water takes that is cold and to be sterilized; the shaded spiral contains the warm sterilized product. In order to give back to the sterilized water its refreshing taste, a very ingenious apparatus has been employed.

This apparatus is made of spirally arranged metallic plates, inclosing spaces about 26 cm. high and 5 mm. broad and absolutely tight. These spaces are divided into two separate and distinct channels: The one for the cold and the other for the hot water. The cold water takes the direction toward the heater, the sterilized water passes on the inverse sense; the one goes from the periphery to the center, the other from the center to the periphery. In this circuit the heat is exchanged.

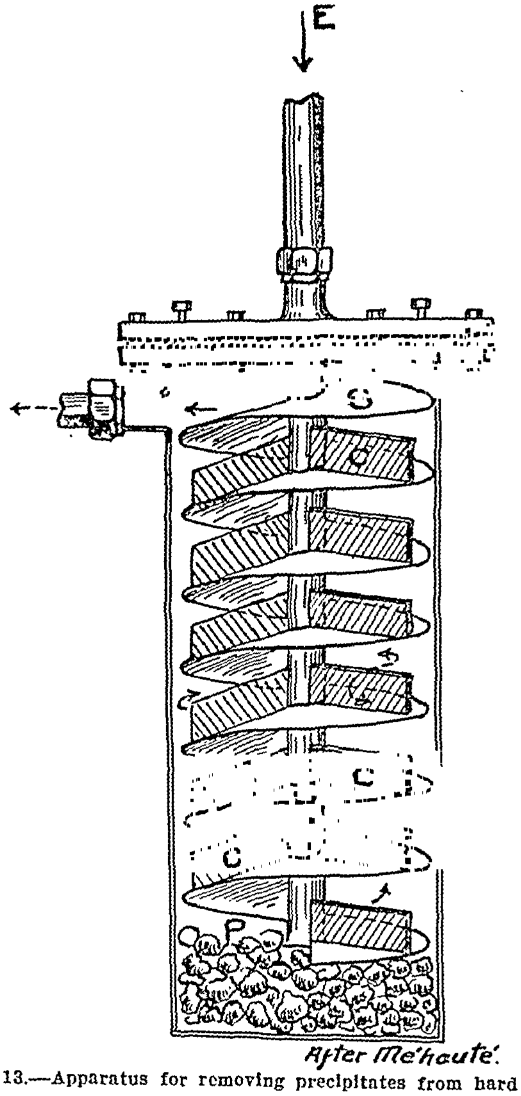

Fig. 13.—Apparatus for removing precipitates from hard water.

When the sterilizer Salvator was tried on board the *Caledonian* and the *Couronne* it did not give entire satisfaction. Preliminary trials demonstrated the necessity of a filter and an attachment in some form for the removal of the precipitates formed during the boiling of an especially hard water. Both these desiderata having been met, the sterilizer works without a fault.

The more [illegible] of these two additional pieces being [illegible]," a brief description will be of interest.

This apparatus (Fig. 13) is intended to remove the earthy precipitates from hard water that formed during boiling. The water enters at E, passes through the central tube to the bottom of the apparatus, where it enters a pile of rough stones, it then gradually rises along the spiral S which carries the vertical plates C intended to retard its progress, and thus compelling it to leave its suspended solid particles behind. The cleaning of the apparatus is very simple. It suffices to remove the cover, to take out the screw-like central part and clean it with a solution of HCL in water, 1/50.

With these two improvements attached, the French ministry of marine has made new trials which have proved unusually satisfactory, according to Le Méhauté, and the report made to him by Dr. Plagneux, the medical director at the depot at Cherbourg. According to these, the sterilizer has worked already for six months without needing any cleaning.

The preceding summary of the water question on board ships contains all the more important features of hygienic interest to-day. The proposed substitution of sterilized for distilled water may seem new to some of us, but it is a question which can not be evaded and which must be answered squarely in the near future.

With such a system as has been proposed by Le Méhauté, we might even question altogether the necessity of sterilization, except perhaps when the water in the tanks or in the pipes or fountains had from some cause been subject to infection or was under suspicion of being infected. With tanks lined with cement, closed on top and connected with a closed and clean system of pipes, pouring their water into a fountain provided with individual and sterilized pipettes, the chances of any possible infection of the water, as well as its transmission from man to man, seems infinitesimal and reduced to a negligible minimum. It is, however, just this negligible minimum which an exacting and consistent hygienist must try to eliminate.

There is no subject within the whole range of naval hygiene in regard to which the prospects for the near future appear as bright and as promising; none concerning which we are as near a satisfactory solution as with the water question on shipboard. At the same time there is no other problem the study of which would lend itself so well for illustrating the slow but sure and progressive influence of hygiene and sanitation on human affairs, near and remote, as does the story of the gradual evolution of the water question on shipboard from the earliest to the present time.

DISCUSSION.

Dr. Denslow Lewis, Chicago, referred to the fact that distilled water may become distasteful, and at times even repulsive and somewhat injurious. He asked if attempts have been made to dissolve any of the normal constituents of water in distilled water with a view of obviating any unfavorable effect on the gastric mucous membrane.

Dr. H. G. Beyer replied that Fonssagrives, the famous French naval surgeon, recommended the addition of small quantities of salines years ago, but the practice did not become popular. Water that is distilled from salt water under ship's conditions is not an absolutely pure product. Chlorin and a few other things were found present constantly at the time Dr. Beyer was engaged in making daily analyses for months.

Dr. C. E. Woodruff, United States Army, said that in hospitals he had tried the use of salts in distilled water. There is great trouble in getting good water at a number of places, but the use of salts has never been tried to improve the general water supply of the post; it is entirely too big a problem for that. But for patients Dr. Woodruff thinks it is easy to put up salts to imitate any mineral water, making it, say, by the gallon. This will obviate all gastric irritation, but it is entirely too big a problem for an entire post.

Dr. L. M. Powers, Los Angeles, Cal., remarked that a great deal of the trouble with distilled water is due to its not being entirely aërated rather than to its want of mineral contents. He thinks aëration very important.

Dr. H. G. Beyer agreed that aëration has a great deal to do with it, but he declared that, strange to say, the modern idea seems to be that these air injectors which were in use formerly, have been entirely eliminated. Some say they are dangerous; they want them eliminated because they introduce millions of germs and other things, which make a filter necessary, and which it is the modern aim to do away with. Another reason for doing away with the aërator is that the water may be depended on to aërate itself, and this is actually the case. Unless the filter is carefully watched it will become a source of infection rather than a means of the prevention of infection. Dr. Beyer said that the water aërator and cooler which he mentioned is a very excellent device for small ships in which the tank capacity is not sufficient to keep the water long enough in the tanks to cool it after being distilled, and if the distilled product is properly protected from impurities by strainers, a distilled water can be produced that is free from dust. The fact remains, however, that the water ought to be aërated to make it palatable.

Dr. M. L. Price, Baltimore, referred to aëration by sterilized air. There is a surgical instrument used to sterilize air, which seems to be very practicable, and he wondered if it could be used to sterilize air for aëration of water.

Dr. L. M. Powers, Los Angeles, Cal., referred to a milk evaporating plant in which the air is forced through a pipe into the vat and trays of cotton batting are placed in the stack so that the air has to pass through the cotton and is thereby filtered. Dr. Powers knew of a fish commissioner who used an atomizer so as to mix air with the water to a great advantage. He thought that a method could be devised for sterilizing the air before using it to aërate the water and thereby supply the necessary oxygen without infection.

Dr. H. G. Beyer said that the object of admitting the air into milk during the process of evaporation is more to facilitate evaporation than to aërate it. In distilling water, if air is allowed to pass through the water while it is evaporating in the distiller twice the amount can be produced, and a similar result follows aëration of milk.

PSYCHOSIS OF MORPHINISM.*

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All writers have mentioned the general defective conception of truth and the relation of right and wrong which appears to be a prominent symptom in all persons who use morphia. It is difficult to understand whether this is a veritable paralysis of the higher reasoning centers or a defect of the senses by which distorted conceptions of facts are not recognized. In all probability both conditions exist, and what is termed moral paralysis is a symptom of some condition of degeneration which is common to these persons in the later stages. This symptom practically describes a defect in the reasoning faculties and inability to recognize the value of truth and honesty, also a disposition to conceal the facts and distort them, no matter what their relation may be.

I shall attempt to group some of these symptoms which may be termed the psychosis of morphinism. The first is a palsy of the consciousness of right and wrong and the inability or indisposition to discriminate between the real and the false. The second is an intense anxiety and zeal to explain and to give reasons for a certain conduct and an explanation of why this or that was done. Third, there is noted some local irritation and disorder of the language centers in which thought is expressed in the most extravagant and impulsive way; or in the most secretive, hesitating and doubtful words. A fourth psychosis is a morbid impulse to deceive, to take advantage, or a keen delight in swindling, misrepresenting, and acting out new characters while under the influence of morphia. This condition was first described by me some years ago, and has been confirmed in some marked criminal cases since then.

The first grouping, called moral palsies, is an impulse to live under a mask for the purpose of concealing their exact condition, or taking advantage of circumstances that appear to be favorable to some personal interest. Many of these persons show this paralysis only in connection with the use of the drug. On all other matters they are frank, honest and exceptionally truthful, but in regard to the use of opium and its alkaloids they practice the worst kind of deception and unreasoning prevarication. They often show extraordinary childishness in denying the use of the drug and manifest indignation on being suspected. Sometimes this denial is followed by intense zeal and anxiety to explain the conduct and motives. In many instances great ingenuity will be apparent to trace it to some particular cause, generally to objective things. This I call the second symptom.

In the first the drug taker is pleased stoutly to deny the implication that he is using drugs. In the second his denials are less emphatic, but his explanations of motives and conduct are so faulty and strained as to convict himself. Often these explanations refer to acts that are associated with the use of opium and not with matters outside. Some patients will be scrupulously honest and exact on matters of observation and in opinions concerning the surroundings, but in securing and using opium they are falsifiers of the boldest class.

There seems to be in many instances a growth and an increase of this particular psychosis, which begins first with mild denials of the use of the drug, then going on to shrewd explanations and reasons, and finally culminating in profound deception and general demoralization on every topic and subject relating to themselves and environment. Generally, long before this stage is reached, changes of appearance, eccentric conduct and indifference to the opinions of others with general degeneration become prominent. The stage of profuse explanation is sometimes very childish and lacking in skill to conceal the real condition. In others it is bold and ingenious, with unusual cunning and apparent frankness. Running through this is a vein of intense egotism and pleasure to convince others of great honesty and an apparent good judgment and sagacity to discriminate as to the value of certain impressions. Thus, in one case, a concealed morphin taker, who detected the slightest suspicion in other persons concerning his conduct, would drop everything and take infinite pains and care to disarm this suspicion.

A clergyman, who had reached this stage of morphinism that attracted attention, spent a large part of his time in explaining to his friends that he was innocent and was misjudged. Each new explanation, by its intensity and minuteness, failed in a degree and required other efforts and explanation. This man was able to go on with his professional work in the pulpit without comment, but eventually resigned and disappeared. Often this stage is associated with a general failure of vigor and previous mentality. He is duller, sleeps in the daytime, is awake at night, blunders in business affairs, makes mistakes in correspondence, forgets proper names and neglects to pay bills, together with the great variety of marked psychical changes. In business he may be more acute and accurate in collecting bills and contracting debts, or the opposite. A certain irregularity of thought and conduct and a suspicion of others are all typical of his condition.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

In a third psychosis, marked from the beginning or only seen in the later stages, is paralysis of the language centers. The manner of expression is changed. Whether loquacious or taciturn, the words that are used to express the thoughts are strange and unusual Often they consist of expletives and forcible exclamations, low figures of speech or low slang words uttered in a reckless way, or the opposite, viz., formal, precise, symbolic expressions that seem rather to conceal than express the feelings of the author. This psychosis is frequently seen in literature, particularly in the variable styles noted in a single article or book, suggesting at once the influence of morphia on the language centers.

A slangy, dogmatic, jerking expression followed by a stiff, pedantic style indicates two stages of morphinism. At the beginning the effects of the drug obscures the consciousness of the value of language and the meaning of the terms used. Later when this wears off, conservatism and secretiveness come on, and the language changes; misty, high-sounding words are used to express the feelings. A great variety of peculiarities in speaking and writing and the sudden change of topics, with apparent inability to keep the mind concentrated on one subject, is very significant of this form of addiction.

DeQuincy had language exaltation, or delirium, but when under the influence of opium he was able to write good English, and careful students of his writings will discover lapses and changes which are clearly due to this cause. One author has described these as defects of consciousness. Another has called them disorders of the sensation, such as hyperesthesia or anesthesia.

There is a marked mental change associated with these symptoms. With it is noted an exaggerated egotism and confidence in the patient's ability to understand the relation of events and shape his conduct so that the real condition may be concealed. In some instances the secret use of morphia exalts some of the senses and depresses others. This may account for some of the confusion states which follow. Probably taste, touch and smell are more or less affected, and the impressions from these disordered senses have much to do in perverting the reason and lowering the consciousness. In the latter stages these conditions are apparent.

A fourth psychosis may be practically called a delirium and morbid impulse to deceive, to take advantage of others, acting out a new character, enjoying the pleasure of taking advantage of others' credulity and the ability to conceal and misrepresent.

It has been noted for a long time that kleptomania was so common that many chronic cases were unable to resist the opportunity to take things. In the police courts it has been noted that some of the shrewdest swindlers, pickpockets and confidence men are addicted to the use of morphia. Under the influence of morphia they exhibit an acuteness of intellect and audacity never seen in the ordinary law breaker, but when the morphia is withdrawn they display the greatest weakness and childishness of manner and conduct.

An example of this kind was that of a man very highly educated and of good social standing who became addicted to the use of morphia and entered on a career of swindling and deception. It seemed to be his greatest delight to go about following the crowds at watering places, hotels and the steamers, making the acquaintances of strangers and securing loans on fraudulent checks, brass jewelry and false diamonds. He had no confederates and never mingled with anybody of the same class. To his friends he represented that he was in the brokerage business, making and placing loans. He used morphia constantly, and after long journeys would return home and remain concealed for days. He carried with him various disguises and changes of clothing, and had a number of cheap crystals set in elegant rings and pins. These he would leave as security for loans made him by strangers. He had numerous letters of introduction and bill heads of prominent firms which he used on all occasions to raise money. His manner was that of great frankness and honesty, and his evident earnestness made friends wherever he went. At times he would solicit loans, giving worthless checks and references or watches and jewelry as security. Then he would pay bills for clothes, jewelry, books or board at the hotel by forged checks, receiving in return balances of money. He would call on leading business men on various plausible pretenses and secure their signatures, which he would copy so accurately on checks that the maker was unable to detect whether they were his own or forged ones. Several times he was arrested, but his great honesty and earnestness of manner completely baffled all investigation. Finally he was detected, deprived of his morphia, and the real condition discovered.

Another man of this class was a sanitarium swindler. and for many years he visited different institutions and was apparently treated for this addiction, but in every instance swindled the proprietor in fraudulent checks and loans on false securities, then disappeared. In a short time he would enter another institution, pay in advance, secure the confidence of the manager, draw back most of the money and deposit checks as securities, then have a telegraphic call to visit a dying mother. This same man traveled on the ocean steamers for two years, making many victims, assuming all sorts of disguises, but finally was arrested and convicted.

A third example was the case of a man who came under my observation charged with larceny. I found it impossible to keep him from the use of morphia. On the trial he was acquitted, but consented to remain with me. I found that he was an excellent type of the Hyde and Jekyll class while under the influence of morphia. His intelligence seemed to be of the most acute character. He reasoned quickly and accurately, was an excellent judge of human nature and adroit to take advantage of every opportunity. If accused of sinister motives, he manifested the honesty and frankness of a saint and could make his accusers regret exceedingly that they misunderstood him. When arrested by a detective he quickly convinced him that he had made a mistake, and his injured innocence seemed so clear that the detective was overwhelmed. He left me to make a visit to a neighboring city, and soon after was arrested in the act of receiving cash for a forged note. He sent for me to confirm his statement that he could not have had such a note and that he was only a patient under my care. So shrewdly did he defend himself that the judge released him.

I found that the criminal instinct to forge notes, sell gold bric-a-brac and do other most adroit pieces of swindling was a veritable delirium and one which he enjoyed when under the influence of morphia. The drug gave him a certain amount of confidence in himself and made him fearless of any results. Of course, he was a moral paralytic. The morphia rendered him more in-sensible to every consideration of duty of right and wrong, and he was able to judge of the weakness of others and take advantage of their circumstances in the most skillful way. He received a yearly annuity from his father's estate, was independent and not engaged in any business. His swindling operations were undertaken as a pleasure, and any gains he received from them were always used to enlarge his sphere of acquaintance and help him enjoy the pleasure of his avocation. He was a total abstainer and used morphia regularly every day, and was finally arrested, sent to state's prison and died a year later from consumption.

No doubt all such persons are moral degenerates at the beginning before the drug is taken. The use of the drug gives a certain courage and shrewdness which for the time being is an exact representation of the real condition; therefore, it is accompanied with evidence of honesty and frankness and disarms all critics. Of course, a career of crime of this class is of short duration, because the use of the drug can not be kept down to the minimum amount. The stimulating stage grows shorter and shorter and the narcotic stage longer.

One of these criminal morphinists was registered in three different hotels in a certain city. At each place he appeared in a different disguise and could so thoroughly conceal his identity and voice that he was not recognized. In each hotel he swindled the proprietor and several of the guests, and then went away without being discovered. Later he tried the same thing in another city, but for some reason his morphia failed to help him out and he was discovered. This psychosis is fortunately not a common one, but it exists and is recognized among detectives more frequently than elsewhere. A physician who belonged to this class for many years has done much to destroy the good will and confidence in the profession of a certain city. He was continually the storm center of slander, dishonest practices, public libels and other thoroughly disreputable acts. His death and the complete subsidence of all discontent and conflict showed that he was the cause of all the deception and intrigue.

The moral paralysis and ethical failures of morphinists show lesions and defects of the higher centers of the brain which undoubtedly may either be inherited or acquired. A study of a number of persons suffering from this form of addiction shows that both the psychical and the physical suffer alike. We have paid great attention to the latter, but the former has received little or no study.

The gross changes seen in loss of pride and degeneration of personal appearance and sharp denials of the use of the drug are common, but the failure of the higher mentality to recognize duty and obligation to others is not studied. This contribution is along these lines. It aims merely to outline a field that is largely neglected, the study of which will enable us to apply therapeutic measures with far more exactness than ever.

A summary of what I wish to make clear may be stated as follows: The psychosis or psychical symptoms common to morphinism are, first, palsy of the consciousness of right and wrong and inability and indisposition to discriminate the ethical principles or responsibility and obligation; second, a delirious stage of profuse explanation and efforts to conceal and explain the reasons for his acts and conduct; third, a special exaltation or depression of the language centers, with a change in the manner of expression and the use of words; fourth, a veritable insanity to deceive, to misrepresent and to take advantage of the credulity of others, not for any purposes of gain, but for the satisfaction of being able to defraud and mislead, also to act in different characters and to elude the efforts of persons who would discover the condition.

DISCUSSION.

Dr. John Punton, Kansas City, Mo., said that the psychopathic features of the morphin psychosis are factors that should be of interest to all because of the medicolegal aspects of the subject. There are two features in reference to this that makes it all the more interesting to the practitioner. One is the ethical and the other is the legal side of the question. Some time ago a man went to Dr. Punton's office and stated that he was taking three grains of morphin daily, and that as a result he thought he was losing his reasoning power. Dr. Punton asked his occupation, and the man said that he was a train dispatcher. Dr. Punton wondered whether or not the patient was a responsible man for such a position. Ethically speaking, Dr. Punton has no right to divulge secrets given him in confidence, but he asked a leading lawyer what would be the probable outcome of the case if he should divulge such a professional secret and be sued for it. The lawyer told him that legally he would be held responsible. Only a short time since the *British Medical Journal* reported a similar case, and the newspapers commented on it and declared that under such circumstances the physician's duty to humanity was greater than to his patients. Soon after this patient's visit to Dr. Punton several serious accidents occurred on the railroad, and he has wondered whether the morphin did not have something to do with their occurrence.

Dr. G. R. Clark, Dearborn, Mich., asked Dr. Crothers if he had ever thought of placing those cases that were due to morphinism alongside of the cases of minor epilepsy and studying them together for six months at a time. Dr. Clark thinks that the same principles are at the bottom of each. The application of morphin in a case of epilepsy, plus the condition of the mind that always goes with that condition, would be very likely, Dr. Clark said, to create this condition of the mind.

Dr. T. D. Crothers said that without doubt in many of these cases there is evidence of an epileptoid taint. Why the continued sedation of the sensory centers should produce exaltation of reasoning and mental activities along certain lines is a phenomenon yet to be explained. The chief of one of the large detective offices of New York City told Dr. Crothers that the most dangerous and difficult cases to detect are criminals who used morphia. He referred to an instance of a man who for over four years traveled about the central cities of the country committing the same kind of crime and eluding the sharpest detectives. One day by accident the morphia was withdrawn, when his usual shrewdness failed and he was arrested. He had a large circle of friends, came from a good family and was highly educated. After a prolonged study it was decided that he was insane and he was permitted to go out under the care of his friends. Within a very short time he entered on another scheme of swindling by making contracts for lightning rods. His great skill consisted in ability to disguise himself and to go back over the same section of country, repeating his swindling schemes more successfully than ever. So long as the man was using morphia regularly he succeeded. These patients develop symptoms of insanity on removal of the drug and are placed in asylums. At present their recognition before this stage is reached is exceedingly difficult, and this study calls particular attention to a new class of psychoneuropaths who are criminals in acts unknown before.

The Great Black Plague.—Tuberculosis has been designated as "the great white plague"; with equal fitness venereal infection may be termed the great black plague", since it most aptly typifies "the pestilence that walketh in darkness." It infects unseen the social body; the vast mass of disease and misery thus engendered is concealed from observation so that there exists on the part of the public the densest ignorance respecting the ravages of an infection which, working in disguise and darkness, ramifies through every rank and order of society. At the present advanced stage of preventive medicine, it may be considered a reproach to sanitary science that this large and important class of diseases is absolutely neglected by the sanitary officials.—*Charities.*

COMPARISON OF THE QUICK AND THE SLOW METHODS OF THE TREATMENT OF MORPHINISM.*

A. J. PRESSEY, M.D.
CLEVELAND, OHIO.

Perhaps an explanation of the title of my paper would make it a little more clear. We will call all forms of treatment where the morphin is withdrawn at once, or where it is withdrawn within five or ten days, a quick method, and where the reduction is gradual and slow and extends over a period of several weeks or months we will term a slow method.

There has, within the past few years, been much advertising of quick cures for morphinism. Nearly every newspaper and magazine, and I am sorry to say some medical journals, contain one or more of these advertisements, and as it has been for the past dozen years my exclusive business to treat narcotic and alcoholic patients I have been much interested in searching for the best method of treatment. I have investigated several of the so-called three, five and ten-day cures. At none of these so-called quick cures do they do anything like what they advertise to do. The morphin is withdrawn within the specified time in some instances, to be sure, but the patient is far from being restored to his normal condition. Often they are in a very much worse condition than as though they had never taken any form of treatment. Hydrobromate of hyoscin is probably the remedy used in all these so-called quick cures. When the remedy is given to certain individuals in proper doses it apparently does remove the desire for morphin. The patient recovers from his hallucinations after five to ten days, soon begins to have an appetite and makes a fair recovery within a few weeks' time, but unfortunately this favorable ending is not the rule but the exception. It appears impossible to decide in advance which patients will tolerate the remedy and be so favorably influenced, and which may be permanently injured by the use of it. While I believe that death from the use of this drug is rare, mental derangement is common. I have known four patients where the mental equilibrium was not restored for several weeks and one patient that was in the insane asylum for six months, when she had somewhat improved and was discharged, but she has never yet returned to her normal condition, and it has been now more than three years since she was released from the asylum.

I have a patient under treatment at the time of writing this paper who was taken to an institution where they advertise to cure the morphin addiction in from 24 to 30 hours. Two weeks later his friends were notified by the physician in charge of the institution that the patient was insane and that he would probably die, and they had better take him home. He was brought to my place and two nurses were required to care for him for two weeks, and he had to be constantly watched for over a month. He was taking as much morphin when he came to me as he did before he took the hyoscin treatment. Now, at the end of two months, he is free of the morphin and seems in a fair way to regain his mental balance.

Dr. Crothers reports having tested the effects of hyoscin in several cases of morphinism and also in alcoholics and always with bad results. In each case delirium with hallucinations and delusions, came on after the second or third dose and continued from two to four weeks. In three instances the delirium lasted two months, and in one instance the mind did not recover and the patient was placed in an insane asylum, where he still remained two years later. Two alcoholics never recovered fully; while not drinking, they have become mild cases of dementia, with great prostration. He also reports a case of a physician who treated himself with large doses of hyoscin, who died suddenly, and that there were reasons for believing that this drug was the cause of death. Also another case treated by a physician with large doses of hyoscin and the morphin removed at once; the delirium lasted for two weeks, then suddenly terminated in coma and death.

Dr. Wagner reports several cases that he treated in the Cleveland City Hospital with hyoscin hydrobromate. He says that this treatment is not devoid of danger, and it is most important that no case be attempted without a special nurse day and night during active treatment, so that the patient is not alone for a minute during this period.

Dr. John Punton says that the treatment of morphinism with hyoscin is unsatisfactory and always contains an element of danger. A large percentage of patients treated after this method regain strength very slowly. One physician, with whom I am acquainted and who had been, up to the time of taking the hyoscin treatment, a strong, healthy man, was unable, after eight months, to attend to his professional duties, and I have known several similar cases.

This method of treatment is irrational and unsafe, and while, as I have previously said, there are some patients treated satisfactorily, the large majority are made only worse by the treatment. There has, as yet, been found no substitute or antidote for morphin, while with the gradual adaptive method we have a perfectly safe and sure form of treatment. Every patient not afflicted with some painful complicating malady who desires to be cured and will co-operate with the physician can be cured, and with very little discomfort. There is no class of patients who shrink from pain and discomfort as do morphinists. There is no other class that has so little fortitude. Why are not these unfortunates entitled to our consideration in making their recovery as painless as possible, just as much so as are surgical patients? There is no class that is more desirous to be relieved of their affliction than is the better element in the bondage of opium, remembering that among the many thousands of addicts there are very, very many of the best educated and most brilliant minds, many with a finely organized, highly developed nervous system, who have worked on a high tension, who have either through their own or some other person's indiscretion or carelessness become the slave of morphin. Others who have been unfortunate in having a long and painful illness, when it seemed almost impossible to endure the suffering, have been given the drug until they have not had the necessary will power to discontinue the morphin after they had recovered from such afflictions. These patients are entitled to our very best efforts to relieve them and with as little suffering as possible.

Thousands of persons are to-day enslaved with the morphin habit that would have taken treatment and become free of the addiction did they not have such a dread and horror of the suffering that they anticipate they must endure in being relieved of it.

There have been several forms of slow withdrawal advocated by different men, such as withdrawing a small fraction of the daily dose each day or withdrawing a certain amount every third or fourth day. Also the adaptive slow withdrawal.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

No patient can be kept anything like comfortable where a certain amount of his daily dose, or a certain part of a grain is withdrawn at a certain time or at fixed periods. Such a plan would assume that every day was the same, that is, that a person felt the same every day and there were no headaches, no neuralgias, no indigestion, and a thousand other causes that will produce extreme discomfort if the quantity of the drug is lessened at such times. Such a system will be necessarily more or less of a failure, unless the reduction is so very slow and is made to extend over a very much longer period than would be required by the adaptive plan. When the above plan is practiced there is sure to be so much discomfort, nervousness and nausea that there will be little or no physical improvement during the period of withdrawal, and consequently there will have to be a longer period of convalescence than as though the patient had been kept more comfortable by the adaptive plan and had been regaining health and strength during the entire time, as a large majority of patients will do.

The adaptive plan, as I practice it, I have described in papers previously read in this section, so that it is unnecessary to go into details. It may be well, however, to give the outlines of the plan of reduction. When the patient comes for treatment he is probably taking from two to four times as much morphin as he requires to keep him comfortable. This surplus may be withdrawn at once. He is also very likely taking one or more other drugs which may be discontinued at once. Perhaps it may require four or five days to find out just how much reduction can be made and still not make him too uncomfortable. We may have reduced the quantity too much and the dose have to be increased a little before we get him started just right. When the quantity has been found that will keep him almost comfortable from one dose time until the next, we make no change in this amount for three or four days, or until the patient is feeling very well, when another small reduction is made, so small that he will hardly be conscious of it. When we are again sure that the amount then being given is going to keep him comfortable, we make another small reduction. These are made only when the condition of the patient has so improved that the reduction will not make him too uncomfortable. Thus we continue the reduction until the quantity used is so small that it can be withdrawn without the patient's knowledge of it. This amount will seldom be more than 1/120 gr. In this way the large majority of morphinists can be kept more comfortable during the entire withdrawal period than while taking the drug themselves. Of course they will require a supportive and tonic treatment, combined with a nourishing diet, during the withdrawal period, which should be continued for some time afterward, depending on their condition.

One of the most difficult and important problems in the management of all cases of morphinism is after they are free of the morphin. Usually within three to ten days after the morphin has been entirely withdrawn they are feeling well and are anxious to get home, and in the large majority of cases it is impossible to get them to stay as long as they should to insure them as much as possible from relapse. For some time after the desire for the drug has been entirely removed there is an unstable, weak and eccentric mental condition, and during this time slight pain, trouble, grief or insomnia will often be sufficient cause to induce him to take a dose or two for temporary relief. Each dose weakens his resistance and the mania is quickly recontracted and is sure to happen if he allows himself to take the first dose. As much time as is necessary to secure a good physical and mental condition should be spent under the personal care of his physician. This is a case where if there is a mistake to be made it is profitable to make it on the safe side.

To recapitulate. The quick cure by hyoscin is irrational, unsafe and unsatisfactory. The diarrhea and vomiting which always occur after the sudden withdrawal of morphin, whether the hyoscin is given or not, which lasts from two to ten days, is very distressing, and the hallucinations, which last for an uncertain length of time are unpleasant, to say the least, and from which the patient may never recover. Relapses, I believe, are much more frequent and convalescence is usually greatly protracted.

The adaptive slow withdrawal is rational, safe and satisfactory. No diarrhea, vomiting, extreme nervousness or any of the severe symptoms shown with sudden withdrawal are ever produced. Convalescence is well advanced when the last small amount of morphin is withdrawn and nearly always rapidly completed. Relapses are much less likely to occur.

900 Fairmount Street.

DISCUSSION.

Dr. T. D. Crothers, Hartford, Conn., said that the subject of morphinism has a personal interest to every physician, because it is one of the most frequent addictions among active workers in the profession. From some studies which he made five years ago and which have since been fully confirmed, he is convinced that at least from 15 to 20 per cent. of physicians in active practice are victims of morphia and spirit-taking. Dr. Pressey's outline of the methods of treatment is very suggestive and demonstrates the efficiency of certain drugs when given with care and skill. Of course, there can be no specifics because the addiction is both a psychosis and a neurosis. All physicians have seen patients make a good recovery by use of hydropathic measures, and often persons recover from the exclusive use of some particular drug. It would not do to reason from this that all patients will recover by the same means. Each case is a law to itself and must be treated individually. There are no rules and no special classes of remedies which will apply to every patient.

Dr. H. G. Brainard, Los Angeles, declared that he was astounded at the statements made by Dr. Crothers and thinks that it is a sad reflection on the condition of the physician. Dr. Brainard said that he knows that in California there is no such proportion as 10 or even 5 per cent. of physicians who are victims of the morphin habit. He is sure that such conditions do not obtain in the profession throughout the country. He is sorry for the people of Connecticut if there is such a condition of affairs there.

Dr. A. J. Pressey said that the figures given by Dr. Crothers must be an estimate, as he does not understand how any one could get exact and reliable statistics on such a subject. Dr. Pressey does not think that there is any such proportion of morphin-users among physicians in any part of the country. More than half of the patients he treats are physicians, but that does not mean that half of all the morphin habitués are physicians. Too many physicians take this drug, but Dr. Pressey does not think there is quite 2 per cent., perhaps about 1 per cent. He does not know just how to get the exact figures.

Dr. T. D. Crothers, Hartford, Conn., said that the facts may be startling, but the evidence on which they are based fully sustains them. A general study of the habits of physicians in four of the largest cities of the country showed that from 10 to 15 per cent. were drug and spirit-takers. In one city a prominent daily paper made inquiries and concluded that at least 15 per cent. of all persons practicing medicine, including members of all the schools, were spirit and drug takers. In other cities the percentage has been estimated as high as 20. In one city over 11 per cent. of all physicians were known or reputed to be using drugs. Dr. Crothers said that he was not prepared to defend any exact statistical percentage as indicating the use of drugs and spirits among the profession, but the discussion of this subject for the past five years since his first study of the habits of 3,500 physicians which were made at that time have amply confirmed the original conclusions. One of the reasons for this is the failure of teachers in medical colleges to make prominent the dangers from both alcohol and opium. The young graduate seldom has any knowledge of the risks and perils from indiscriminate use of these drugs, and as a result many of the profession become victims at first secretly, then openly. This is one of the great personal dangers confronting the profession that should be studied and removed in the near future.

LAWS CONCERNING TEACHING HYGIENE.*

HELEN C. PUTNAM, M.D.

PROVIDENCE, R. I.

It has recently been my work in another medical society to compile and analyze our present laws relating to the teaching of hygiene, 45 state and 1 federal, all more or less elaborated. This time-consuming task was undertaken with ideas that I have been compelled to alter radically in the progress of the study. My anticipations were based on certain general—somewhat pessimistic—statements in lay, scientific and medical current literature; but the exact details now reported should be known to all physicians interested in preventive medicine.

It is not my intention to discuss this legislation further than to give the facts as they stand in the present laws.

The laws existing in 1903 (none have been altered since then) are published in the *Bulletin of the American Academy of Medicine*, April, 1904, as a preliminary report of the committee to investigate the teaching of hygiene in public schools. The details of all the statistics I shall give can be found in appendix A of the first installment of the committee's report published in the *Bulletin*, June, 1905.

It is well known that the initiator of public sentiment that has resulted in this legislation extending over all territory under our jurisdiction, was the Woman's Christian Temperance Union. Its immediate aim has been and is to have hygiene, in connection with instruction as to the nature and effects of alcohol, tobacco and other narcotics, taught on a scientific basis in public schools as thoroughly as is arithmetic or any other branch required by law. We find accordingly in all the laws the phrase "physiology and hygiene with special reference to the nature and effects of alcoholic drinks and other narcotics." There are several variations in this wording, the reasons for which it is not necessary to discuss at this time. The general interpretation of this clause is that physiology and hygiene shall be taught, including the special topic indicated.

The nine other chief details occur irregularly, most of them appearing first during the five years after the original law of 1882 in Vermont. Their *raison d'ètre* is that it seemed necessary to specify them in order to secure enforcement of the spirit of the law. Any physician who has had experience in our political methods can easily imagine the evasions these laws have met, in consequence chiefly of the opposition of one of the largest commercial interests, as well as from certain social influences; from the indifference or ignorance of many, and from teachers' lack of preparation for teaching science. Without going further into their history, let us now examine these nine legal specifications.

I. SPECIFICATIONS CONCERNING WHAT SCHOOLS SHALL TEACH HYGIENE.

The federal law specifies all public schools, including Indian and colored, in the territories and District of Columbia, and military and naval academies.

Twenty-three state laws specify "all public (common, free) schools."

Twenty-two specify "all schools supported wholly or in part by public money, or under state control," Illinois and New York adding all normal schools, teachers' training classes and institutes, and schools connected with reformatory institutions. Private schools having special charters are "under state control," but the law is not generally interpreted to include them. The law of Michigan, however, specifies all such schools, and the law of Massachusetts all private day schools except those solely for instruction in particular branches. Alabama specifies colleges; Indiana, Maryland, Minnesota, Ohio, Pennsylvania, Utah and Wyoming specify "all educational institutions" aided by state funds. This would include state universities, colleges and normal schools, certain institutions for study of special subjects, schools for defectives (blind, crippled, deaf mutes, feebleminded); schools for the neglected, destitute and incorrigible; schools in reformatory and penal institutions. I do not know how literally these seven laws are enforced. As a matter of fact, many of the 22 laws specifying simply "public schools" are interpreted to include normal, reformatory and some others.

This detail of the 46 laws differs little anywhere in actual intent, and the same is true of the next.

II. SPECIFICATION CONCERNING PREPARATION OF TEACHERS.

Fifteen states have only the general school law requiring examinations of teachers in all subjects ordered by law to be taught. Thirty specify examination in this branch as in others, Idaho excepting primary teachers; New Jersey, teachers of music, drawing, manual training, etc. The federal law does not mention examination of teachers in military and naval academies.

III. SPECIFICATIONS AS TO WHAT PUPILS IN THESE SCHOOLS SHALL RECEIVE INSTRUCTION.

Fourteen laws do not specify what pupils shall receive this instruction, and 23 specify "all pupils." California specifies all grades, in all classes, during entire school course; Connecticut, "above third grade and below high school;" Illinois and New York, "below second year of high school;" New Hampshire, "above primary grade;" South Carolina, "as far as practicable."

This detail as to teaching hygiene in primary and grammar grades is influenced by the fact that in round numbers out of five million pupils entering the lowest primary grade only one million go on to grammar grades, and only one-quarter of a million enter high school. Nineteen-twentieths of the pupils, and they of the poorer classes, would receive no instruction in hygiene if it were confined to high schools; sixteen-twentieths, none if it were confined to grammar schools.

IV. CONCERNING METHODS AND THOROUGHNESS OF INSTRUCTION.

Fourteen laws make no specification as to whether the instruction shall be oral or by text-book. Nine laws specify "text-books in the hands of pupils;" nine specify text-books for those able to read and oral instruction for those unable to read. California and Indiana require oral instruction only, but in fact have text-book instruction also.

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* Read at the Thirty-third Annual Meeting of the American Public Health Association, Boston, September, 1905.

Twenty-five laws specify that instruction shall be as thorough as in any other branch required by law.

V. SPECIFICATIONS CONCERNING TEXT-BOOKS.

Only 14 laws out of the 46 make specifications concerning text-books.

Eight of these specify that they shall be approved by certain authorities; North Carolina, by the state text-book commission; New Hampshire, by the superintendent of public instruction; Nevada and Michigan, by the state board of education. Michigan's original law (1883) also included approval by the state board of health. This has been eliminated, and now Wisconsin is the only state requiring approval by its health officials. Minnesota requires approval of text-books on hygiene by the superintendent of public instruction and presidents of normal schools; Colorado, by the board of directors of the school district.

Four laws specify the minimum number of pages for instruction as to the nature and effects of alcoholic drinks and other narcotics.

Illinois, Michigan, New York and North Carolina require at least twenty pages in high school volumes, i. e., about one-twentieth of the volume. Below this grade Michigan and North Carolina require at least one-fourth of the volume; Illinois and New York, at least one-fifth, also adding that the pages in a separate chapter at the end of the book shall not be counted in this minimum. This provision was introduced, it is stated, to discourage the attempt to place in the schools old text-books to which a "temperance appendix" had been added to conform with the law requiring instruction in hygiene to include instruction in this special subject.

For the same reason the laws of 14 states specify that temperance instruction shall be given "in connection with the several divisions of the subject of physiology and hygiene;" i. e., that when studying the circulation, or the nervous or respiratory systems, pupils shall at that point be given instruction as to the effects of alcohol and other narcotics on each.

The laws of two states, New York and Illinois, specify that text-books shall be graded to the capacities of pupils of fourth year, intermediate, grammar and high schools.

VI. CONCERNING TIME TO BE USED FOR INSTRUCTION.

Three only out of 46 laws have specifications concerning length or minimum number of lessons in hygiene.

North Dakota has a minimum for oral instruction to those unable to read; at least 15 minutes daily, 4 days each week. This means an hour's weekly instruction in hygiene, including temperance, or a possible 24 hours yearly, the minimum school year being 6 months.

Illinois and New York, in the lowest three primary grades, require, respectively, three and two lessons each week, each year. If these are 15 minutes long they amount to 7½ hours and 5 hours oral instruction yearly for three years.

Illinois and New York require for text-book instruction four and three lessons weekly, respectively, for ten weeks each year from the fourth primary year to the second year in high school. Text-book lessons are usually 20 minutes. This amounts, therefore, to a minimum of 13½ and 10 hours yearly for six years; somewhat less for eleven-twelfths of the pupils who do not go through all grammar grades nor continue in high school.

We see from the above that the greatest requirement of any of the three laws is 24 hours minimum oral instruction yearly in physiology and hygiene, including temperance instruction; the other two states not exceeding a minimum 13½ hours for either oral or text-book teaching. The usual minimum time given to either reading and writing, geography or arithmetic is not far from 40 hours yearly. Therefore the laws of Illinois, New York and North Dakota can not justly be said to make undue claims for the subject of health. Certain other states in some schools give even more time to the subject.

VII. PUPILS' EXAMINATIONS IN HYGIENE.

Illinois, Iowa, Ohio and New York specify that pupils must pass the same tests in this as in other branches.

VIII. ENFORCEMENT OF LAWS.

A law, whether good or bad, is not infrequently futile because no one is interested in enforcing it or because, if interested, he has no means of overcoming the hostility or inefficiency of some official. Experience has proved the wisdom of providing a model law with three powers. The duty of enforcement must be definitely placed, the method of enforcement detailed, the penalty for non-enforcement indicated, and provision for complainants is sometimes made. In the legislation under discussion experience seemed to indicate that these provisions were sometimes desirable.

The duty of enforcing these laws is specifically assigned by 31 states, usually to certain local school authorities, occasionally adding the state superintendent or county board.

IX. REPORTS AND PENALTIES IN CASE OF NON-ENFORCEMENT.

Special reports from special sources are stipulated by 13 of these 31 states. They may be from teacher or other local official, or from any citizen or head of family, to some local or state official, or by the state superintendent in his annual report to the public. The report is frequently made to the official who pays out school money.

Penalties for non-enforcement of laws are specially mentioned by 19 of these states. They vary from removal of any guilty official from office, or revocation of teacher's certificate temporarily or otherwise, to loss of salary, or fines from $5 to $200 against any guilty official, or loss of all or part of state appropriation to school, city or district.

Delaware and Washington specify the officer of the law who shall recover the fines. Ohio and Washington specify what shall be done with said fines.

In states where no special mention is made of the enforcement of this law there is the general school law requiring teachers' compliance, subject to dismissal, etc.

I now beg to call your attention to the opportunities which these laws offer for the introduction of any alterations in the present teaching of hygiene. It will be observed that:

1. No law states what shall be taught as to the nature and effects of alcoholic drinks and narcotics; nor that total abstinence shall be taught.

2. No law prevents the teaching of hygiene through "domestic science," physical training, biology, medical inspection; nor from other viewpoints than physiologic, as economic, or sociologic. All these methods have be-

gun and are progressing along with our growing acquaintance with the subjects.

3. No law requires indorsement of text-books by the Woman's Christian Temperance Union.

4. Forty-two laws do not stipulate the space for temperance instruction in text-books on hygiene. Forty-three laws do not specify the number and length of lessons in hygiene (including temperance).

Or, in other words: These laws making the study of physiology and hygiene mandatory, as are other essentials of common education, provide opportunity to introduce text-books, methods, teachings, for any interested in hygiene who have the capacity to do it. They evidence in their details the intention that, so far as the law can secure it, the teaching of health shall be on a par with the teaching of mathematics, language, and physical environment. Certainly it ought to be. The laws are not hindrances, but proffer openings—more than proffer, they command the work to be done.

It is not the province of this paper to discuss the kind of work now doing, nor the kind of work that ought to be done, nor how a change, if desirable, can be effected; but whoever wishes to make a change must accomplish it not by expending vitality and time in altering laws, but by convincing school authorities that some other text-book or method will produce better results than those already in use.

A CASE OF BRAIN TUMOR.*

JULIUS GRINKER, M.D.
Professor Nervous and Mental Diseases, Chicago Post-Graduate Medical School; Assistant Professor in Clinical Neurology, Northwestern University Medical School; Neurologist to Cook County Hospital.
CHICAGO.

Patient.—M. M., a Lithuanian laborer, aged 28, entered Cook County Hospital March 14, 1905, and was assigned to the care of Dr. Kuh. The following April he came under my service and remained under my observation until April 28, when a transfer to the surgical side was recommended. Dr. Schroeder performed an operation May 4, 1905, and the patient died May 5, 1905.

History.—Family and personal history are negative and syphilis is denied. He states that his habits were always good and that he never sustained an injury. Three weeks previous to admission the patient began to complain of severe headaches, which were constant and generalized. At about the same time spells of vomiting appeared which seemed to have no relation to the gastric functions. A feeling of nausea always accompanied these vomiting spells, but sometimes there was nausea without vomiting. Somewhat later in the course of the disease attacks of vertigo came on whenever the patient attempted to stand or walk. Then progressive generalized weakness of the entire muscular apparatus became a marked feature. The before mentioned symptoms soon inhibited any kind of work and compelled the patient to lie in bed most of the time.

Examination.—He is a man of medium height and weight, with well-developed muscles, but staggers in attempts at walking. The face appears slightly asymmetrical, though no paralysis or paresis can be detected when the muscles are at rest. The skin is somewhat muddy; there are no eruptions, but a few insignificant scars from a burn can be seen on his back. The panniculus adiposis is fairly well developed. Glandular enlargements can not be detected. Heart and lungs appear normal in outline and function. Liver and spleen are not palpable. The pulse is rather slow and full, with fairly high tension. The secretions and excretions yielded negative results, with the exception of the stomach contents, which were deficient in free hydrochloric acid, but which did not show the presence of lactic acid, Boas-Oppler bacillus nor sarcinæ.

Nervous System: A slight difference in the innervation of the two halves of the face in favor of the left half becomes evident when the patient attempts to uncover his teeth, blow up his cheeks or move his jaw from side to side, but there is no difference on the two sides in transverse and longitudinal wrinkling of the brow and in the function of the orbicularis palpebrarum muscles. The tongue is somewhat tremulous and when protruded deviates slightly to the right. Although there is no paralysis or paresis of any muscles, the grip is rather weak in both hands, but slightly better on the left side. Strength is not appreciably diminished in the lower extremities except that the right leg is not as strong as the left. Coordination is normal in both upper and lower extremities, but the patient at times presents a peculiar staggering gait which is neither of the tabetic nor the cerebellar type.

The superficial reflexes are normal and equal on both sides. The upper reflexes are somewhat brisk, slightly more so on the right side. The left knee-jerk is about normal, the right is slightly in excess. Ankle clonus is barely indicated on the right and doubtful on the left side. There is no Babinski, Oppenheim nor Gordon reflex. Sensation is unimpaired in all its qualities.

Eyes: The range of vision is normal. There was no diplopia, ptosis, strabismus, exophthalmos nor Argyll-Robertson pupil. The optic fundus findings were considered within normal limits by Dr. Brown Pusey.

Mentality: The patient is mostly depressed and worries greatly over his disease and about his family. He never indulged in flippant talk, the so-called *Witzelsucht* of German writers. His speech is rather slow and labored and is quite unintelligible, perhaps partly because of his ignorance of English.

Course of Disease.—The course of the disease was comparatively rapid. At no time was there a temperature, except immediately before death. The pulse ranged from 64 to 90 and only became frequent toward the end, when 150 to the minute was registered.

March 22, 1905, it was noted that the left palpebral fissure was wider than the right and that the left pupil was somewhat dilated and reacted sluggishly to light.

On April 15, 1905, I could easily make out a double optic neuritis. Dr. Brown Pusey, at my request, examined the patient April 18, 1905, and he kindly reports the following: Double papillitis very distinct on left side; not so well marked on right side. No hemorrhages or exudates. Pupils react to light and in accommodation.

The patient frequently groaned from pain and would place his hands over the frontal region as though to indicate the exact location of his pain. Slight physical or mental strain, such as walking or being interrogated about his symptoms, always aggravated the headache. No bruit could be heard over any portion of the cranium and percussion failed to elicit the cracked-pot resonance occasionally noted in brain tumor.

Somewhat toward the end the right-sided weakness previously mentioned became more pronounced, without, however, developing into distinct loss of power. Not even at this time did Jacksonian or other convulsions make their appearance. The patient became more apathetic and was even stuporous at times, but even now he could be sufficiently aroused to answer questions. A skiagraphic picture taken by Dr. Fischkin of the Cook County Hospital showed nothing of value from a diagnostic point of view.

Diagnosis.—Here is a patient with headache, vomiting, vertigo, general weakness, optic neuritis and gradually deepening mental apathy with staggering gait. In addition there is a slowly developing weakness of the right half of the body, objectively demonstrable in the face and arm, but not so well in the lower extremity.

Following the usual rule of dividing symptoms of brain pressure into general and focal symptoms, we can find both sets of symptoms in this case. Among the general symptoms must be counted headache, vomiting, vertigo, optic neuritis, generalized weakness. Of localizing value was the difference in the muscular strength on the two sides of the body, possibly the more pronounced papillitis on the left side, and the mental apathy and tendency to somnolency. In the absence of symptoms pointing to cortical irritation, such as Jacksonian fits or muscular twitchings of any kind, I considered the neoplasm to be most probably subcortical in location. The right-sided weakness in arm and face determined me to locate the tumor on the left side of the brain in the region of the anterior central convolution bordering the Rolandic fissure and probably extending from about the junction of the upper with the middle third down near to the base, but not involving the base of the brain. This diagnosis was made largely on a consideration of the recent findings of Krause of Berlin, which were published in the *Deutsche Klinik*. In his article Krause states emphatically that our old schemes of cerebral localization have become obsolete and are inadequate for practical needs in brain surgery. In his experience the face, arm and part of the leg center were found principally in the ascending frontal convolution, anterior to the Rolandic fissure, and not, as heretofore taught, in the postcentral convolution. He arrived at his conclusions by his routine method of stimulating the brain with faradism before operating. In his efforts to localize the motor centers he uses the unipolar method instead of bipolar faradization, and he has been able to get uniform results. The motor centers in man, according to his experiments, are situated anterior to the Rolandic fissure, notwithstanding the experiments made on the monkey and with the bipolar method which place these centers principally in the postcentral convolution.

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* From Cook County Hospital.

Treatment.—The patient was from the first placed on mixed antisyphilitic treatment. He was given inunctions of mercurial ointment and large doses of potassium iodid, but without any benefit.

As the patient was becoming more stuporous and as internal treatment had failed to produce the slightest change in his condition, I recommended a transfer to the surgical side. On April 28, 1905, the patient was assigned to Dr. Schroeder for surgical treatment, who concurred with me in the diagnosis and the advisability of an operation. It was evident to all of us, judging from the patient's condition, that an operation was indicated as affording the only possible chance of prolonging life. It was my opinion that the tumor was subcortical, and probably situated on the left side in the ascending frontal convolution. The symptoms in this case did not justify an expression of opinion regarding the pathology nor whether the growth was circumscribed or of the infiltrating kind.

Operation.—Dr. Schroeder, assisted by Drs. Quick and Dyas, performed the operation May 4, 1905. For the following notes I am indebted to Dr. Schroeder, who has taken an unusual interest in this case:

"A large osteoplastic flap was turned down on the left side of the head, as follows: A horseshoe shaped incision was first made through the skin, then a small trephine hole through the bone on either end of the incision, which openings were then united by means of the DeVilbiss forceps. The bridge was only partially cut across and the flaps elevated. The dura was then incised and reflected to either side. When the brain was exposed no sort of pulsation could be seen or felt. The soft membranes appeared normal, but a dense resisting mass could easily be felt just anterior to the Rolandic fissure, which appeared to be at some depth from the surface. It was decided to cut into the brain mass with a view of exploring the tumor. A dense mass of brownish tissue was encountered which seemed to extend rather deeply and did not appear to be clearly defined from the surrounding normal tissue. At this step of the operation it became evident that the tumor was not removable and after cutting out a piece for microscopic examination, the operation was abandoned. A drain of iodoform gauze was introduced to guard against pressure from hemorrhage and the dura was sutured with catgut. Marked paralysis of the right arm and leg appeared within a few hours after the operation. The patient was in great pain, moaned constantly and never entirely recovered consciousness. His condition kept growing worse, pulse and respiration became rapid and irregular, until toward the end 160 beats to the minute could be counted. The temperature rose to 106.8 just before death, which occurred on May 5, 1905."

Postmortem Findings.—The examination was made by the resident pathologist and internes at Cook County Hospital. Omitting unimportant details, I find recorded the following anatomic diagnosis:

1. Tumor in the left cerebral hemisphere.
2. Purulent right-sided bronchopneumonia.
3. Acute parenchymatous myocarditis.
4. Tracheobronchial adenitis.
5. Parenchymatous degeneration of liver, pancreas and kidneys.

Owing to a misunderstanding the cord was not removed and, therefore, no report could be rendered.

The brain weighed 1,500 grams and showed no abnormal changes in the membranes. An operation wound in the left hemisphere revealed a tumor at some depth from the surface, situated in the region of the ascending frontal convolution. The neoplasm was not sharply defined from the surrounding brain tissue, except that it was more reddish in color and had a denser consistency. Approximately it was three inches in length, two inches in its widest diameter and it seemed to extend from above downward for a distance of about one and one-half inches. Microscopically it showed the following: With low magnification an immense number of nuclei was the most striking picture. With the high power lens many filamentous processes could also be observed to radiate in all directions without any apparent regularity. The cells are mostly small and have round or slightly oval nuclei. The macroscopic and microscopic appearance of the growth leaves no doubt of its being a glioma.

The case just reported illustrates, among other things, that, no matter how ill-defined, focal symptoms must be present before a localizing diagnosis can be attempted. Without some such signs as unilateral weakness, paresis, or exaggerated reflex, slight aphasia, etc., it would have been impossible even to guess at the location of the tumor.

One symptom of localizing value had not been properly appreciated in our case, owing to the patient's imperfect knowledge of English. I refer to his mental dullness early in the disease, which would have been of distinct value in attracting attention to the frontal lobe as the seat of the neoplasm, had we been certain of his former mental state.

An interesting negative symptom was the absence of Jacksonian fits or muscular twitchings of any kind throughout the disease. Its value consisted in excluding cortical involvement and enforcing strict conservatism from a surgical point of view. Even if epileptic fits had occurred late in the disease, their significance as a focal sign would have been doubtful, as spasms often occur in tumors that originate in the white substance of the brain and gradually grow outward, irritating the cortex.

The indefinite symptoms are easily explained by the fact that gliomata of the infiltrating type are usually of slow growth, and the brain tissue gradually accommodates itself to new conditions. It is not rare for patients with brain tumor to masquerade as subjects of neurasthenia or hysteria on account of their supposed functional symptoms until some one discovers a choked disc or until the patient develops more typical signs of brain tumor.

That the topical diagnosis was correctly made was proved on the operating table and postmortem examination. It is true that we have learned something about cerebral localization, but all we know definitely refers principally to the so-called motor area of the brain. And it would appear that even this supposed definite knowledge must be considerably modified in the light of recent acquisition. Heretofore the motor area was considered to be principally situated in the ascending frontal and ascending parietal lobes, but principally in the latter. Now it develops that Sherrington,[1] by his recent experiments on the chimpanzee, has found that the motor area was not as extensive as previously supposed, and that it lies entirely in front of the fissure of Rolando, i. e., entirely within the frontal lobe.

Campbell,[2] in his histologic researches, was able to claim the same situation for man. Bolton[3] unqualifiedly accepts the view of the before-mentioned authors. It was reserved, however, for surgeons of the stamp of Krause[4] to demonstrate the truth of these statements on living human beings, anesthetized and ready for operation.

A point worthy of mention in connection with this case is our utter inability to make a positive, or even probable, anatomic diagnosis of brain tumor; viz., whether we have syphiloma, tuberculoma, glioma or sarcoma.

In conclusion, this case offers an additional example of the well-known fact stated by Oppenheim,[5] Starr,[6] Gowers,[7] and others, that glioma must almost always be considered an inoperable tumor, because of its tendency to infiltrate and because it is usually deeply situated in the white substance of the brain.

In the same sense G. L. Walton and W. E. Paul[8] are worth quoting. They say:

> The prevailing skepticism among pathologists regarding the operability of gliomata seems well founded. Such tumors involve a tendency to faulty growth inherent in the brain substance itself, a tendency to which no boundary can be set, and which can no more be checked than the tendency of fruit to decay after removing the portion obviously decayed, a comparison already rather too favorable for the brain, because the difficulty in determining the extent of brain destruction in case of a glioma by exploratory operation is, as a rule, much greater than that of determining the limit of decay in the fruit.

100 State Street.

THE MANAGEMENT OF TYPHOID FEVER.*

J. F. JENKINS. M.D.

TECUMSEH, MICH.

As soon as a diagnosis of typhoid fever is made, or even in a suspicious case, it is better to place the patient in a recumbent posture, and to keep him in that position throughout the whole course of the disease.

Positive orders must be given to the nurse to change the position of the patient from side to side, or from the back to the side, every two or three hours. One should examine the heart and lungs, as well as the abdomen, from day to day, as long as the patient is under observation, and he should not assume the erect position at any time during the continuation of the fever, either for the purpose of taking nourishment or drink; and, however obstinate the patient may be, one should insist on his using the bed-pan on all occasions when it is necessary.

It is a well-known fact that the diet in typhoid fever is of the utmost importance, and that solid food should not be permitted under any circumstances from the beginning of the fever until ten days after its termination. It is well known that beef tea and broths make an excellent culture medium for the typhoid bacillus, and therefore it is well to omit them from the diet list. This error in diet doubtless accounts for the excessive diarrhea often observed in patients who are allowed to have these broths. Milk, from a quart to a quart and a half, preferably given with pepsin and hydrochloric acid, and two soft-boiled eggs every twenty-four hours, make a very efficient diet during the whole course of the fever. Frequently, barley water or rice water may be given for a change. In the later stages of typhoid fever, a stimulant in the form of old whiskey may be added to the milk, especially if there is a flagging pulse. In the early stage of typhoid fever, fractional doses of calomel, followed by a small dose of Rochelle salts or soda phosphate, is indicated; in many cases the above preparations may be repeated from time to time during the first and second weeks.

The gate of entrance of the typhoid bacillus is the alimentary canal, and Peyers glands, situated in the small intestines, appear to suffer from their attack more than any other portion. Intestinal antiseptics are prescribed by many physicians, but they do not destroy the typhoid bacillus in the intestinal canal, or in the circulatory system, which they frequently invade even before one has had an opportunity of examining the patient. Bacteriologists state, however, that antiseptics do destroy the non-specific bacteria that invest the intestinal canal, combat fermentation to a certain degree and lessen the foul odor emanating from the discharges of the intestinal canal. By their antiseptic influence they lessen the diarrhea, as well as the tympanitis; therefore, they are useful and should be prescribed.

Among the many remedies exerting an antiseptic influence in the alimentary canal, one may mention salol, turpentine, sulphocarbolate of zinc and acetozone.

The temperature in typhoid fever rises from 100 F. to 105 F., and upward. When the temperature of the patient continues up to 102.5, antipyretic remedies are indicated. We have in cold water a remedy that fulfills every indication, either in the form of the sponge bath, the cold pack or tubbing. The cold sponge bath will reduce the temperature, although it may be necessary to repeat the bath every hour or two; occasionally, ice cold water is required to reduce the temperature. Cold drives the blood to the internal organs; hence it is advisable to follow up the bath by vigorously rubbing the surface with a coarse linen or crash towel. Frequently a small quantity of stimulants is indicated after the bath. When delirium, restlessness or coma is a prominent feature, the ice cap continuously applied to the head—although it will be necessary to change its position from time to time—will greatly relieve the patient and often produce a natural sleep. During convalescence a tepid sponge bath of equal parts of alcohol and water two or three times a day has a beneficial effect on the patient. One should insist on the nurse giving the patient from a quart to a quart and a half of boiled water every twenty-four hours, for the typhoid patient does not usually call for water, even when his temperature is high.

In a large proportion of cases diarrhea is excessive; frequently it is aggravated by an excessive quantity of food, or by food which is not assimilated. A change in the quantity and quality of the food will have much to do in lessening the diarrhea. Bismuth subnitrate in large doses frequently repeated will usually check the excessive discharge from the bowels. Subsultus tendinum in the terminal stage of the disease is usually accompanied with great restlessness; for which in recent cases I have found Hoffman's anodyne, as recommended by Hare, a very useful remedy.

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[1] Sherrington and Gruenbaum: Proc. Royal Soc., vol. lxix.

[2] A. W. Campbell: Liverpool Medico-Chirurgical Journal, 1903, p. 430.

[3] Jos. Shaw Bolton: Brain, 1903, p. 215.

[4] Krause: Deutsche Klinik, vol. viii, article on "Gehirnchirurgie."

[5] Oppenheim "Gehirngeschwülste," second edition.

[6] Starr: Organic Nervous Diseases.

[7] Gowers: Manual on Nervous Diseases.

[8] G. L. Walton and W. E. Paul: Journal of Nervous and Mental Diseases, August, 1905.

* Read before the Lenawee County Medical Society, at Tecumseh, Mich., Oct. 10, 1905.

In the later stage of typhoid fever, the feeble heart's action calls for support; and one must instruct the nurse relative to the necessary stimulants to sustain the circulation. During convalescence the urine is loaded with the typhoid bacillus. Hexamethylenamin in 5-grain doses, repeated three times a day, well diluted with water, and continued for a week or ten days, will destroy the bacillus in the urine.

Special Article

THE PHYSICIAN AND THE PHARMACOPEIA.

CHAPTER II.

EXPECTORANTS.

The prevalence of coughs and "colds" in the winter months is sufficient evidence of the importance of this class of agents. Their use in domestic practice—largely as "patent medicines," so called—probably exceeds that directed by the physician as ten to one.

Physicians are supplied liberally with literature by manufacturers of proprietary remedies, but the pharmacology of this literature is not always worthy of the faith that some physicians place in it. As an example we quote from a circular distributed exclusively to physicians: "In severe and frequent cough, when little mucus is secreted, as shown by the scanty viscal sputum, morphin, or, better, its derivative, ethyl-morphin, is indicated, which increases secretion and lowers excitability of the respiratory center." For comparison with this interested statement by the manufacturers we quote from the article on opium in Wood's Therapeutics (11th ed., p. 716): "Its tendency to check secretion forbids its use, however, in a very large proportion of cases, notably in those in which there is persistent dryness of the bronchial mucous membrane." Sollmann, Cushny and others state that morphin possesses the same property, though to a lesser degree than opium.

In such circulars manufacturers usually advocate the use of some certain remedy for all coughs, but we may be pardoned if we again quote Wood for comparison: "It is plain that the medical practitioner must study in each individual case the relations between the cough and the amount of work required."

The discovery of a medicinal agent is the signal for a host of imitators whose product may differ, if at all, merely in the substitution of an ethyl for a methyl group, or of one harmless acid radical for another. These are presented in increasing numbers to the physician, who can by no possibility remember them all. Or some well-known drug, whose length of service, if not merit, entitles it to some respect, is seized on to serve as a basis for fabulous claims, perhaps long since voiced, disproved and forgotten.

There is still another interesting phase connected with these various nostrums. Many of us pride ourselves on the fact that we use only "ethical" preparations and also that we insist on knowing just what we are prescribing or using. It must be rather embarrassing, therefore, to find that even the public is more exacting in this respect than we are and that the manufacturers of popular medicines, when they do advertise the composition of their particular mixture, publish a full and complete formula and not an incomplete one such as we frequently find in the advertising pages of medical journals, or in the circulars that come to our desk.

Ayer's Cherry Pectoral Versus Pruni-Heroin.

Concrete examples, however, are so much more effective than mere generalities that we select—almost at random—two advertisements for comparison. Surely no physician of our day would prescribe "Ayer's Cherry Pectoral." How many prescribe the much-vaunted "Pruni-Heroin?" Let us compare these formulas, the one from the lay press, the other from nearly any medical journal. Note that the advantage of complete publicity lies with Ayer; whether correctly or not, the quantities are all given.

AYER'S CHERRY PECTORAL.

Each fluid ounce[1] represents
Wild cherry ......6 grains.
White pine ....4 grains.
Terpin hydrate....4 grains.
Blood root ....2 grains.
Heroin (!)......1/6 grain.
Grindelia robusta..4 grains.
Senega ....4 grains.
Rio ipecac ....2 grains.
Glycerin.
Alcohol ....80 m.
Syrup.
Water.

PRUNI-HEROIN.

Each fluid ounce represents
Wild cherry bark.
White pine bark.
Terpin hydrate.....4 grains.
Blood root.
Heroin ....1/6 grain.
Ammon muriate...16 grains.
Spikenard.
Glycerin.
Solvents.
etc.

If Ayer's "shotgun" Pectoral ought to be considered obsolete, what shall we say of Pruni-Heroin? If a physician prescribe Pruni-Heroin and condemn Ayer's to a patient who has taken Ayer's, what will the patient think of the advice if he learns the composition of Pruni-Heroin?

Expectorants in the Pharmocopeia.

The expectorants official in the United States Pharmacopeia afford a great variety of choice. Innumerable combinations are possible, but we shall merely suggest a few of these, in connection with some of the drugs and preparations available.

It should be remembered that coughing serves to remove mucus from the respiratory tract and usually requires no treatment. If this becomes unduly severe, it may require alleviation; if the secretion is scanty it may be increased or rendered more liquid.

Acute bronchitis may be divided into two general stages, with certain expectorants useful in each stage, but this is not *to be taken as a rigid classification.*

The first stage—that of dryness of the mucous membrane, with considerable cough—calls for sedatives; the second—that of *free secretion—requires stimulant expectorants.*

Sedative Expectorants.

Among the official sedative expectorants to be used in the first, or dry, stage of cough we have the following:

Ipecac.

Ipecacuanha.—U. S.—Ipecac is the dried root of *Cephaëlis ipecacuanha* (Brotero), A. Richard (Fam. *Rubiaceæ*). It is known commercially as Rio, Brazilian or Para Ipecac, or the corresponding portion of *C. acuminata*, Karsten, known commercially as Carthagena Ipecac, yielding, when assayed by the process given in the Pharmacopeia, not less than 2 per cent. of ipecac alkaloids. Ipecacuanha was first described by Piso and Markgraf, in 1648, in their natural history of Brazil. The drug appears to have been well known to the natives of Brazil and to have been much prized for a variety of therapeutic purposes. It was introduced into Europe, about 1675, by John Helvetius, of Paris. The Carthagena variety of Ipecacuanha is a comparatively recent introduction, being first noted as a distinct variety, about 1870. Ipecacuanha is official in all pharmacopeias, but up to the present time the Pharmacopeia *of the United States is the only one to recognize the* Carthagena variety as being the equal of the Brazilian.

Pulvis Ipecacuanha.—U. S.—Average dose: Expectorant, 0.050 gm. (1 grain); emetic, 1 gm. (15 grains).

Fluidextractum Ipecacuanhæ.—U. S.—Fluid extract of Ipecac.—Extractum Ipecacuanhæ Liquidum Br. should contain 1.75 per cent. of alkaloids.

Average Dose: Emetic, 1 c.c. (15 minims); expectorant, 0.05 c.c. (1 minim).

Pulvis Ipecacuanha et Opii.—U. S.—Powder of Ipecac and Opium. (Dover's powder.) This contains 10 per cent. of ipecac, 10 per cent. of powdered opium and 80 per cent. of sugar of milk.

Average Dose: 0.500 gm. (7½ grains); used chiefly as a diaphoretic.

Syrupus Ipecacuanhæ.—U. S.—Syrup of Ipecac. This contains 7 per cent. of Fluidextract of Ipecac and 1 per cent. of Acetic acid in a mixture of glycerin, sugar and water.

Average Dose: Expectorant, 1 c.c. (15 minims); emetic, 15 c.c. (4 fluidrachms).

Vinum Ipecacuanhæ.—U. S.—Wine of Ipecac. A mixture of 10 per cent. of Fluidextract of Ipecac, 10 per cent. of alcohol and 80 per cent. of white wine.

Average Dose: 1 c.c. (15 minims).

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[1] We give ounces instead of drams to facilitate comparisons.

When the bronchi are inflamed and the secretion is scanty or thick and tenacious, nauseants, such as ipecac, lead to increased secretion which secures its removal by coughing. The choice of nauseants is guided by the general condition of the patient, ipecac being preferred to Antimony and Potassium Tartrate in those cases (children and weakly persons) in which great depression would be dangerous. The active principle of ipecac is not usually employed in the pure state as an expectorant, the syrup of ipecac being preferred, as the tannin present retards absorption and prolongs the action.

The expectorant dose of the nauseants is always very much less than the emetic—approximately one-tenth in the case of ipecac. The average doses given are approximate and the expectorant dose is to be repeated every two or three hours; the emetic dose is to be repeated half-hourly until effective.

For croup in small children few remedies enjoy a greater reputation than syrup of ipecac, which is given alone in doses of from ten to thirty drops, repeated at intervals of thirty minutes until vomiting occurs.

A Typical Ipecac Prescription.

The preparations of ipecac are seldom used alone as expectorants, but are usually added to mixtures of allied use.

The following may be considered a typical prescription for ipecac to be used in teaspoonful doses every two hours; for the syrup of ipecac a corresponding amount of fluidextract or wine may be substituted. When an opiate is imperatively demanded 15 c.c. (4 drachms) of camphorated tincture of opium may be added without other change:

℞.	Syrupi ipecacuanhæ	ʒvi	25
	Ammonii chlorid	℥iss	6
	Syrupi tolutani, q. s. ad	ʒiii	100

Senega.

Senega.—U. S.—Root of *Polygala senega*—Radix Senega—is one of the few drugs of American origin that has found a place in every recent pharmacopeia. It contains a saponin which is locally irritant, but which is not absorbed; hence, the drug is not depressing. It is almost invariably used in small amount as an addition to other expectorants. It has the disadvantage of an unpleasant acrid taste. The official preparations are:

Fluidextractum Senegæ.—U. S.—Average dose, 1 c.c. (15 minims), and

Syrupus Senegæ.—U. S.—This contains 20 c.c. Fluidextract of Senega in 100 c.c.

Average Dose: 4 c.c. (1 fluidrachm).

See also Syrupus Scillæ Compositus.

Sanguinaria.

Another irritant nauseant more notable for its abuse than use is:

Sanguinaria.—U. S.—Rhizome of *Sanguinaria canadensis* (bloodroot). This drug, usually omitted by modern therapeutists or dismissed with a line, contains sanguinarin, belonging to the morphin group, and causing depression of the respiratory center. It is mentioned here more particularly because of its widespread use by the nostrum makers. The common name—bloodroot—appears to possess considerable psychical effect. The Indians, perhaps, displayed more wisdom in its use than we do; they only applied it externally, as war paint. The only official preparation is:

Fluidextractum Sanguinariæ.—U. S.

Average Dose: 0.1 c.c. (1½ minims).

The "Compound Syrup of White Pine" of the national formulary represents the "popular" expectorants. It is not recommended, however, as it is too complicated.[1]

Antimony.

Antimony and potassium tartrate is a more depressing nauseant than the drugs above mentioned. It may be used on robust persons, but not with safety on children or the infirm. Its mode of action is similar to that of ipecac, and here, too, we have a variety of official preparations.

Antimonii et Potassii Tartras.—U. S.—Antimony and Potassium Tartrate; Antimonium Tartaratum Br., Tartarus Stibiatus Ger., Tartar Emetic. Colorless, transparent crystals or a white granular powder, soluble in 15.5 parts of water, insoluble in alcohol. It was discovered in 1631 by Mynsicht, whose process of manufacture was subsequently improved by Glauber. It has long been the most popular and widely used of the medicinal compounds of antimony, and is now official in all recent pharmacopeias, the official nomenclature differing widely, however.

Average Dose: Expectorant, 0.005 gm. (1/10 grain); emetic, 0.03 gm. (½ grain).

Vinum Antimonii.—U. S.—Wine of Antimony. This contains 0.4 per cent. of Antimony and Potassium Tartrate in solution in 1 part of alcohol and 5 parts of white wine, and enters the well-known compound mixture of glycyrrhiza—a deservedly popular expectorant.

Average Dose: 1 c.c. of the wine (15 minims).

Mistura Glycyrrhizæ Composita.—U. S.—See Glycyrrhiza.

Tartar Emetic is an ingredient (0.2 per cent.) in the Compound Syrup of Squill, which see below.

For the administration of Antimony and Potassium Tartrate, the official Compound Mixture of Glycyrrhiza (6 per cent. Wine of Antimony, —0.024 per cent. Antimony and Potassium Tartrate) is used alone or with 4 gms. (60 grains) Ammonium Chlorid to 60 c.c. (2 ounces). A typical prescription follows:

℞.	Vini antimonii	ʒiv	15
	Aquæ chloroformi, q. s. ad	℥iii	100

A teaspoonful every two hours.

Apomorphin.

Apomorphinæ Hydrochloridum.—U. S.—Apomorphin hydrochlorid.—The hydrochlorid of an alkaloid prepared from morphin by the abstraction of one molecule of water. Soluble in 40 parts of water, in the same proportion of alcohol, practically insoluble in all other solvents.

Apomorphin is much less useful as an expectorant than as an emetic, its action being brief.

Average Dose: Expectorant, 0.002 gm. (2 mg. or 1/30 grain); emetic, 0.005 gm. (5 mg. or 1/12 grain).

Ammonia.

Ammonii Chloridum.—U. S.—Ammonium Chlorid Br. Ammonium chloratum Ger. A white crystalline powder, without odor, having a cooling saline taste, permanent in air, soluble in 2 parts of water and in 50 parts of alcohol.

As sal ammoniac, this substance has been known from a very early time. It is popularly supposed to have been first obtained from the neighborhood of the Temple of Jupiter Ammon, in Northern Africa.

Ammonium Chlorid was known to the Arabian physicians and was described by Geber. It is now official in all recent pharmacopeias. Wood recommends this salt in the stage just before secretion becomes free; for this purpose the following may be used:

Trochisci Ammonii Chloridi.—U. S.—Each troche contains 0.1 gm. (1½ grains) Ammonium Chlorid and 0.2 gm. (3 grains) Extract of Glycyrrhiza.

Ammonium chlorid is much used as an addition to Compound Mixture of Glycyrrhiza in the proportion of 4 gms. (60 grains) to 60 c.c. (2 ounces), and it may be added to nearly any expectorant mixture which is not strongly alcoholic.

STIMULATING EXPECTORANTS.

Tolu.

Balsamum Tolutanum.—U. S.—Br.-Ger.—Balsam of Tolu, a balsam obtained from *Toluifera balsamum*, a yellowish-brown, plastic solid that has a pleasant aromatic odor and a mild aromatic taste. It is readily soluble in alcohol, nearly

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[1] The following is the formula for the Compound Syrup of White Pine:

White pine bark (pinus strobus)	℥iss	75
Wild cherry bark	℥iss	75
Spikenard root	ʒiss	10
Balm of Gilead buds	ʒiss	10
Sanguinaria root	ʒii	8
Sassafras bark	grs. cv	7
Morphin sulphate	grs. viiss	5
Chloroform	ʒiss	6
Sugar	ʒxxvss	750
Alcohol		
Water		
Syrup (U. S.), of each, to make	Oii	1000

insoluble in water. Balsam of Tolu was first described by Monardes, a Spanish physician, about 1574. The drug, it is said, was collected in a district near Carthagena, called Tolu, and appears to have been well known to and used by the natives of Northern South America. Balsam of Tolu, at the present time, is a widely used and popular drug and is official in all of the leading pharmacopeias.

Average Dose: 1 gm. (15 grains).

Syrupus Tolutanus.—U. S.—Syrup of Tolu, containing the water-soluble principles of 5 per cent. of Tincture of Tolu in Syrup.

Average Dose: 15 c.c. (4 fluidrachms).

Tinctura Tolutanæ.—U. S.—Tincture of Tolu, a 20 per cent. solution of Tolu in alcohol.

Average Dose: 2 c.c. (30 minims).

The mildest of the stimulant expectorants is Syrup of Tolu, if, indeed, this can be considered as anything more than a flavored syrup. The balsam is not infrequently used in medicine, but may be given in the form of an emulsion made with acacia and water and sweetened with sugar.

The benzoic acid and volatile oil in the balsam give it the advantage of being mildly antiseptic, the syrup, however, being too weak to be effective in the dose usually employed.

Balsamum Peruvianum.—U. S.—Balsam of Peru may be used in the same dose and for the same purpose as Balsam of Tolu.

Attention is called to the fact that the urine of persons taking such amounts of these balsams gives a precipitate with nitric acid which may be mistaken for albumin, but the precipitated resins dissolve in alcohol, while albumin does not.

Benzoin.

Benzoin.—U. S.—This balsamic resin is also a harmless stimulant, useful in bronchial irritation.

Tinctura Benzoini.—U. S.—A 20 per cent. solution of Benzoin in alcohol, or:

Tinctura Benzoini Composita.—U. S.—"Turlington's Balsam," commonly called "Friar's Balsam" (also containing Benzoin, Aloes, Storax and Tolu), also may be given.

Average Dose: 1 c.c. (15 minims) every two hours.

The fact that these expectorants are harmless is a very great advantage—and is a point to be particularly remembered in the treatment of small children, in whom opiates and such depressants as antimony and potassium tartrate are to be avoided.

Tar.

Syrupus Picis Liquida.—U. S.—Syrup of Tar.—Containing one-half of 1 per cent. of the soluble principles of tar in syrup, is mildly stimulant and the taste is not unpleasant.

Average Dose: 4 c.c. (1 fluidrachm).

Tar itself has a disagreeable acrid taste and is not often used in substance.

Terpin Hydrate.

Terpini Hydras.—U. S.—Terpin Hydrate.—This is a body closely related to turpentine, camphor, etc. It occurs in colorless, lustrous, rhombic prisms, or a white crystalline powder, nearly odorless, of a slightly aromatic and somewhat bitter taste, soluble in about 200 parts of water and in 10 parts of alcohol.

Average Dose: 0.1 gm. (2 grains) in capsules or elixir. Owing to its slight solubility in water, the elixir must be strongly alcoholic and glycerin be substituted for syrup—a serious objection to its general use. It is very commonly associated with codein, which is also not to be recommended for routine practice.[2]

Terpin Hydrate has been known for some time, but was not used in medicine until after Lepine published the results of his physiologic investigations in 1885. It is supposed to possess the antiseptic and stimulating effects of turpentine without possessing its irritating properties. The substance soon became popular and was included in the United States Pharmacopeia for 1890. It is also official in the German Pharmacopeia and in the French Codex.

It has been suggested as a remedy in a variety of ailments, but it appears to be useful mainly as an expectorant, enjoying a reputation particularly among the nostrum vendors. It is, in reality, useful in aiding to get rid of secretion from the bronchial mucous membrane.

Terebene.

Terebenum.—U. S.—Terebene.—This is a polymerization product derived from turpentine which it closely resembles.

It is a colorless liquid, having a rather agreeable odor and an aromatic, somewhat terebinthinate taste, readily soluble in 3 times its volume of alcohol, but only slightly soluble in water.

First obtained by Soubeiran and Capitaine about 1841, it was introduced into medicine by Dr. William Murrell about 1885; it was made official in 1890 and in the British Pharmacopeia of 1898.

It is used in much the same conditions as Terpin Hydrate; its immiscibility with the mixtures usually employed as expectorants has interfered in no small way with its employment. It may be prescribed in alcoholic solution, in capsules or in the form of an emulsion.

Average Dose: 0.5 c.c. (8 minims).

Squill.

Scilla.—U. S.—Squill. The bulb of *Urginea maritrima*, containing several potent principles, it is exceedingly irritant and in large doses toxic.

Average Dose: 0.1 gm. (2 grains).

Of all the official drugs used in the treatment of cough, few are better known than squill, the syrup being the most popular of its preparations.

This drug is both stimulant and nauseant; hence, it is used in both stages of bronchitis.

Syrupus Scillæ.—U. S.—Syrup of Squill. This represents 5 per cent. of Squill; made from Vinegar of Squill and, therefore. containing dilute Acetic Acid; it is, of course, incompatible with ammonium and other carbonates—a fact not infrequently lost sight of by the prescriber.

Acetum Scillæ.—U. S.—Vinegar of Squill. This represents 10 per cent. of the drug extracted with dilute acetic acid.

Average Dose: 1 c.c. (15 minims).

Fluidextractum Scillæ.—U. S.—Average dose, 0.1 c.c. (2 minims).

Tinctura Scillæ.—U. S.—This represents 10 per cent. of the drug.

Average Dose: 1 c.c. (15 minims).

These last three preparations of squill are seldom employed, but the following is widely used:

Syrupus Scillæ Compositus.—U. S.—Compound Syrup of Squill, Hive Syrup. This represents 8 per cent. of the Fluidextracts of Squill and Senega and 0.2 per cent. of Antimony and Potassium Tartrate or about 0.01 gm. (1/6 grain) to the teaspoonful.

Average Dose: 2 c.c. (30 minims).

The use of squill as an emetic is not free from danger and the drug is seldom so employed alone.

Creosote.—U. S.—(or Guaiacol.—U. S., which constitutes up to 90 per cent. of creosote) is used as a stimulant expectorant. There is considerable diversity of opinion as to its mode of action. It seems to possess little germicidal action so far as the lungs are concerned. When it is administered in a bland oil very large doses are tolerated, but this is not necessary for its expectorant effect.

Numerous compounds of creosote and of guaiacol have been suggested as substitutes for the official products, but it is not probable that they possess any decided advantages over the official. Those which are less poisonous are probably absorbed from the alimentary canal to a much less degree than are the official creosote and guaiacol.

Among the guaiacol compounds is the proprietary "Ethacol," containing ethyl-morphin, a fact to be carefully borne in mind, as the name of the preparation is not nearly so suggestive of morphin as of guaiacol. The manufacturers of this article recommend morphin or ethyl-morphin in bronchitis for increasing secretion! to which attention has already been called.

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[2] It may be prescribed as the unofficial Elixir of Terpin Hydrate and Codein Sulphate. Dose: Two teaspoonfuls, containing 0.15 gm. (2 grains) Terpin Hydrate and 0.024 gm. (½ grain) Codein.

ANODYNES.

When the irritability of the throat causes excessive coughing anodynes are indicated. Morphin, however, must only be used with the greatest caution owing to its tendency to check secretion, "free circular therapy" to the contrary notwithstanding.

Codein.

CODEINA.—U. S.—Codein. Very soluble in alcohol, much less soluble in water.

CODEINÆ PHOSPHAS.—U. S.

CODEINÆ SULPHAS.—U. S.—Both are quite soluble in water, but not in alcohol.

Average Dose: 0.003 gm. (3 mg. 1/20 grain).

Codein, rather than its salts, is suited for combination with Terpin Hydrate, since both require alcohol as its solvent.

CODEIN has come very largely into use in expectorant mixtures in recent years, partly because its action resembles that of morphin without disturbing digestion or causing constipation in moderate doses, partly, no doubt, because manufacturers have popularized it in order to avoid the stigma attaching to the general use of morphin and opium.

Codein undoubtedly lessens cough, but, as already stated, this is not always desirable. Codein phosphate or sulphate, being soluble in water, may be added to almost any cough mixture which is not alkaline.[3]

Ammonium Chlorid is not well suited for combination with Terpin Hydrate, since the latter requires a strongly alcoholic menstruum which precipitates ammonium chlorid.

Numerous substitutes have been introduced for morphin and codein, but it has not been demonstrated that they possess all the advantages and none of the disadvantages of the officials. It must not be forgotten that habit may be formed with any of the morphin derivatives, including codein.

Attention has previously been called to the extreme similarity between Ayer's Cherry Pectoral and Pruni-Heroin, and the reader is invited to compare the extravagant claims made for Glyco-Heroin (Smith) with the action of heroin as stated by Sollmann and other accepted authorities.

Still another of the host of expectorant nostrums is "Syrup Codeia Compound—Bell," said to contain codein phosphate, *terpin hydrate*, eucalyptus and ipecac (compare with formula of Ayer's Cherry Pectoral).

The manufacturers of the "Syrup Codeia Co.—Bell" lay particular stress on the purity of their codein. The United States Pharmacopeia gives a very simple test for the purity of codein, which any physician may apply. We again invite a careful comparison of the *testimony* of accepted authorities concerning the constituents of this nostrum with claims made by the manufacturers.

The bromids of ammonium, potassium and sodium are safer than morphin, and are frequently beneficial when anodynes are indicated. Their doses should, however, be more than proportionately reduced for children.

Hydrocyanic Acid.

HYDROCYANIC ACID may be added to expectorant mixtures, but its action is fleeting and it must be frequently repeated.

ACIDUM HYDROCYANICUM DILUTUM.—U. S.—Contains 2 per cent. absolute HCN.

The average dose is 0.1 c.c. (1½ minims).

DEMULCENT EXPECTORANTS.

Demulcents are frequently employed to allay the irritation of the mucous membrane, and they possess the great advantage of being harmless. They may be administered in the form of lozenges or troches.

The following demulcents may be used as vehicles:

SYRUPUS ACACIÆ.—U. S.

MUCILAGO ACACIÆ.—U.S.

Licorice.

GLYCYRRHIZA.—U. S.—Licorice root is so well known as to require but little comment. Its preparations afford a variety of forms for administering it.

FLUIDEXTRACTUM GLYCYRRHIZÆ.—U. S.—This is the fluidextract of licorice root, from which a satisfactory syrup may be prepared by mixing 25 c.c. of the fluidextract with enough syrup to make 100 c.c.

Average Dose: 2 c.c. (30 minims).

EXTRACTUM GLYCYRRHIZÆ PURUM.—U. S.—This is a semisolid extract prepared from the root and is well adapted as an addition to extemporaneous mixtures.

Average Dose: 1 gm. (15 grains).

TROCHISCI GLYCYRRHIZÆ *et* OPII.—U. S.—This contains 0.005 gm. (5 mg. or 1/12 grain) of opium.

GLYCYRRHIZINUM AMMONIATUM.—U. S.—Ammoniated Glycyrrhizin is an excellent demulcent; it is readily soluble in water, but is *incompatible with acids.*

Average Dose: About 0.25 gm. (4 grains).

PULVIS GLYCYRRHIZA COMPOSITA.—U. S.—*Brust Pulver* Gr. Compound Powder of Glycyrrhiza, a laxative, containing Senna, Washed Sulphur, Glycyrrhiza, Sugar and Oil of Fennel, and is popularly believed to be a desirable adjuvant to expectorant medicines.

Average Dose: 4 gm. (60 grains).

MISTURA GLYCYRRHIZÆ COMPOSITA.—U. S.—Compound Mixture of Glycyrrhiza, Brown Mixture, containing Purified Extract of Glycyrrhiza and Acacia, each 3 per cent., syrup 5 per cent., with Camphorated Tincture of Opium 12 per cent., Wine of Antimony 6 per cent. and Spirit of Nitrous Ether 3 per cent.

Average Dose: 8 c.c. (2 fluidrachms).

This is a deservedly popular expectorant. It is very often prescribed alone, but is also much used as a vehicle for other expectorants, particularly ammonium chlorid.

Ammonia.

AMMONIUM CARBONATE.—U. S.—Ammonium Carbonate Br., Ammonium carbonicum Ger.

White, hard, translucent, striated masses of a strong odor of ammonia without empyreuma, and a sharp, saline taste, slowly but completely soluble in about 4 parts of water and decomposed by hot water.

A condition deserving especial mention is that in which the mucus is particularly thick and tenacious, requiring liquefaction; for this purpose, ammonium carbonate is frequently added to other expectorants; it has the disadvantage of an unpleasant taste, which can not be disguised with diluted acids because these decompose the carbonates.

The cough of chronic bronchitis requires the use of one of the stimulant expectorants, such as Terebene or Terpin Hydrate, bearing in mind the avoidance of those which will prove objectionable with continued use.

While urging the advantage of using the pharmacopeial agents, we particularly suggest that the physician consider the several ingredients of any nostrum instead of accepting the absurd and often grotesque claims of the manufacturers.[4]

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[3] The following is suggested as a simple prescription containing codein:

R.	Codeinæ sulph.	grs. viii	5
	Ammonii chloridi	ʒiss	6
	Syrupi pruni. virg. q. s. ad	℥iii	100

M. Sig.: A teaspoonful every two or three hours.

Compound Mixture of Glycyrrhiza, Syrup of Tar, Syrup of Squill or Syrup of Tolu may be substituted, wholly or in part, for the syrup of Wild Cherry.

[4] Compare the following, purporting to have been written by a physician, with any text-book treating of the ingredients of which Respiton is alleged to be composed—5 grains, each. Asclepias (species ?) berberis and aromatics to the teaspoonful:

> "I have used Respiton in cases of La Grippe and on a a baby, 9 months old, for severe cough, with excellent results. H. E. Williams, M.D."

Constipation in Anemic and Chlorotic Subjects.—Sir Andrew Clarke recommended one-half grain each of aloin, ferri sulphas exsic., ext. belladonnæ, ext. nucis vomicæ, pulv. ipecac, pulv. myrrhæ and soap: One pill one hour before last meal, should bowels not act during the day. Osler uses a sulphur confection in the morning and a pill of iron, rhubarb and aloes throughout day. Shoemaker prescribes: ℞. Aloes purif. gr. iii; massæ ferri carb. gr. ii; pulv. aromat. gr. i: One or two pills at the bed hour. Exercise in the fresh air is, of course, a valuable adjunct.—*Denver Medical Times.*

Clinical Notes

A CASE OF COMPOUND DISLOCATION, WITH FRACTURE OF THE LEFT ULNA.

LOUIS B. HENKEL, JR., M.D.
ANNAPOLIS, MD.

After a careful search of the literature I have failed to find a case similar to the one described in this paper, and I am reporting this with the hope that it will be of benefit to other members of the profession.

Patient.—On Dec. 29, 1903, C. H., aged 24, was admitted to the Emergency Hospital of this city.

History.—While ascending a ladder in the afternoon of the same day he had fallen about fifteen feet to the ground below. With some building material in his hand he had ascended about two-thirds of the latter and, turning around, he lost his balance and fell to the ground below. He landed on the palm of his right hand, left wrist, knees and face. The injury to the right palm was of the lacerated variety, which required six sutures to close the wound, after which it was dressed with 10 per cent. iodoform gauze and redressed every day for a week. The sutures were then removed, the wound having healed by first intention. The injuries to the knees and face were simple contusions, the former healed completely under iodoform gauze dressing in about five days; the latter healed, except the slight discoloration, in about ten days under bichlorid and later alcohol compresses. More important than the injuries I have just described, and that which has led me to report this case, was the injury to the left forearm. The man, as I have mentioned above, landed on his left wrist, etc., and as soon as his wrist struck the ground dislocation of the ulna occurred, with the free end of the ulna piercing the muscles, fascia, cutaneous and other tissues, the result being a "compound dislocation." From the history which the patient gave and from the appearance of the wound, I concluded that the end of the ulna, which was protruding through the tissues of the wrist, had struck the ground, thus causing the splintering which had occurred of that end of the ulna. I made a diagnosis of "compound dislocation, with a comminuted fracture" of the left ulna.

Treatment.—The patient arrived at the hospital at 6:30 p. m., and was evidently under the influence of alcohol, which I later learned was given to him by his friends in the hope of relieving his pain. His injuries had been dressed by one of the physicians at the Naval Academy Hospital, after which the patient was removed to the Emergency Hospital. I found the patient a little stupid and suffering a good deal of pain, for which I directed the nurse in charge to administer morphia, gr. ¼, with atropia, gr. 1/150, and to repeat the injection, if necessary, to quiet the patient. After an inspection of the injuries I concluded to wait until it was necessary to redress them and not to interfere with what had already been done. I remained with the patient about two hours; then left him in charge of the nurse for the night. The next morning I called to see patient, and was informed by the nurse in charge that the morphia and atropia had had no effect and that the patient had been suffering all night. On inspecting the dressings I found that they were thoroughly blood stained, and deemed it wise to investigate the cause for so much bleeding. Removal of the dressings from the left forearm showed the splintered end of the ulna protruding through a lacerated wound of the soft parts of the left wrist, which had been sutured with catgut and, I am sorry to say, had not proved adequate for the injury. I removed the loosened sutures and could then clearly see that the distal end of the ulna, which was protruding, was splintered to such an extent as to make it triangular, with an apex, instead of being more or less blunt as is the case in the normal bone, the styloid process being broken off.

Operation and Result.—Under general anesthesia I proceeded to repair the injury. I found it impossible to return the free end of the ulna through the opening made by its exit, so extended the opening up the forearm by an incison about three inches, and then, after catching up and ligating all bleeding vessels, I was able to reduce the dislocation by extension, flexion inward and outward of the hand, and manipulation, my assistants retaining the ulna in position while I closed up the wound with ten interrupted sutures. A plaster of Paris bandage was then applied, an oblong window being left over the wound which was dressed with 10 per cent. iodoform gauze after thorough irrigation with 1 to 1000 bichlorid solution. The injuries to the right palm and knee were also dressed with 10 per cent. iodoform gauze after bichlorid irrigation. The lacerated wound of the right palm required six sutures to close it. Both palm and knee had entirely healed by the sixth day, at which time the sutures were removed from the palm. The injury to the left forearm was dressed every second day, then every third day, until the sutures were removed at the end of four weeks, the wound having healed by third intention. The plaster bandage was removed at the end of three weeks. After massage with alcohol I put up the wrist in an anterior and posterior splint, which I kept on for about ten days. After removal of the splints, passive movements and massage were ordered and gradually increased until the patient was allowed to rotate and to flex his hand as much as possible. The wound healed up entirely, and the patient was discharged at the end of the seventh week with fairly good movement.

SUCCESSFUL AMPUTATION OF THE PENIS FOR EPITHELIOMA.

L. SEXTON, M.D.
NEW ORLEANS.

History.—In June, 1898, Y. C. consulted me about an epithelioma of the penis which he and his physician friends had unsuccessfully tried to heal for eight months. Instead of healing, the epithelioma had continually grown larger until it involved not only all the preputial margin of the penis, but the larger portion of the glands as well.

Examination.—It was the squamous variety of epithelioma which had started as a warty excrescence on the folds of the prepuce. Hypertrophied papillæ studded the ulcer where the mucous membrane and skin had previously come together. Several scabs or layers of epithelium had been removed from time to time when finally the base of the growth gradually began to harden and to extend, its surface being covered with a cauliflower-like excrescence. The portions of the tumor that had ulcerated had everted edges which bled freely on manipulation. The granulations were red like a cock's comb—even the friction of the clothing or the removal of bandages was sufficient to start up a slight hemorrhage. Fortunately, the process of infection had not reached the inguinal lymphatic glands as on careful examination they were found to be neither enlarged nor tender, so it was not necessary to remove them. The fact that I had seen several epitheliomata in old people caused me to look with grave suspicion on any warty growth of the penis, even though the patient was a young man—45 years of age, as in this instance.

Diagnosis.—Though the diagnosis was self-evident, the base of the tumor hardened, and the history one of an epitheliomatous growth, the base and every indication pointing to the diagnosis of skin cancer, still I would not amputate such an important organ without first excluding every possibility of doubt of syphilitic gummata or simple papillomata. I therefore excised a small portion of the tumor and had the diagnosis of epithelioma verified by a competent microscopist. Had I not known that the patient had never been infected with syphilis, I should have tried him for a short while on large doses of iodid of potash and mercury. Chancroid is usually a more acute affection than epithelioma, is amenable to proper treatment and, as a rule, occurs in younger men. Buboes and secondary symptoms develop in the early course of syphilitic chancre, and induration is much larger in comparison to the size of the ulcer than in epithelioma. In chancre in from six to eight weeks there is a roseolous rash. In syphilitic gummata the growth is much more rapid and the ulceration after it develops is not so likely to bleed. Its edges are more undermined, its granulations not so fungous. Epithelioma, as remarked before, is usually a disease of middle or old age. It is a chronic ulcer with indurated edges and no disposition to heal, and glandular enlargement comes late in the course of the disease. All these diagnostic points should be taken into consideration, as was done in this case, before a final amputation is made. A competent microscopist can settle the question by a careful examination of a section of the tumor.

Treatment.—As the prognosis of the disease is always grave, I told the patient after the diagnosis had been made positively that the disease would progress from bad to worse and that there was no hope for recovery from local or constitutional treatment, and that his only chance would be immediate removal of the organ. He had heard the siren tale of all the quacks; in fact, he had tested some of their wares at enormous expense and pain to himself, only to see the disease progress with more rapidity than before; hence he was reconciled to radical and rational treatment, and when I assured him that the element of pain would not enter into the case at all he readily consented to an amputation of the organ, which was done in the following manner:

Operation: The pubis and scrotum were shaved and thoroughly cleansed with soap, water and the usual antiseptics. The mechanical cleansing had been done previously. The head of the organ was thoroughly hooded so as to prevent the possibility from infection from the ulcer during the operative proceedings. A strong rubber band was rendered aseptic, doubled on itself, and thrown around the penis, close to the symphysis pubis. The penis was firmly held, though not stretched, and after a cuff of healthy skin had been dissected back the cut was made through the corpora cavernosa about two inches proximal to any evidence of the diseased tissue and a beveled incision made which left the urethral portion one inch longer than the corpora; the diseased portion was thus ablated. At this point the rubber band was loosened and four small vessels were either twisted or ligated with catgut. The urethra was split up for a small distance and its edges stitched to the skin, which had previously been approximated over the amputated stump of the penis. A soft rubber catheter was left in the bladder in order that the wound might not become infected by the urine passing over it. A light sterilized gauze dressing and T bandage were applied to the perineum. The parts were occasionally washed off with boracic acid or carbolic acid solution.

Result.—An uninterrupted recovery was the result and no recurrence of the trouble has appeared, though seven years have elapsed since the operation was performed.

Remarks.—In neglected cases in which the disease has progressed even to the roots of the penis and in which the inguinal glands are enlarged, it becomes necessary to enucleate the glands from the groin as well as to amputate the penis from the symphysis pubis; as a matter of course this is a much more serious operation and the liability to recurrence is much more probable. Castration of the patient at the time this amputation is done has been advocated by some surgeons, but as the operation is required at an age in which sexual passion rarely enters into the case, it occurs to me that the testicles may be left unless they too are involved in the diseased process.

INTESTINAL PARASITES IN CANAL ZONE.

ONE HUNDRED AND FIFTY CONSECUTIVE EXAMINATIONS OF STOOLS.

NORMAN E. WILLIAMSON, M.D.
Pathologist, Colon Hospital,
CRISTOBAL, CANAL ZONE.

Balantidium coli, or *Paramœcium coli*, has not hitherto been reported from this section. It occurred in two cases of our short series. It has also twice been seen by Dr. E. P. Beverley, and in one case by Dr. Lloyd Noland, at Ancon Hospital—five cases in all.

It is oval or pear-shaped, at times round; from 70 to 110 microns in length by from 60 microns to 72 microns in width. It is actively motile, being covered with flagellæ most numerous at the mouth, which is at the small pole. There are a rather large nucleus and two contractile vacuoles.

Intestinal Parasites Found in 150 Consecutive Examinations of Stools.

	Ova of Uncinaria Duodenalis.	Ova of Tricocephalus Dispar.	Ova of Ascaris Lumbricoides.	Ameba Dysenterie.	Rhabdonema Strongyloides.	Cercomonas Intestinalis	Balantidium Coli.	Myiasis.	Trichina Spiralis.	Negative.
48										+
18	+									
10				+						
1				+		+				
8		+	+							
1		+				+				
11	+	+								
1	+	+				+				
4					+					
2								+		
4	+		+							
13		+								
5						+				
2		+			+					
1	+	+					+			
3	+	+	+							
1		+	+		+					
1			+	+						
3	+			+						
1			+			+				
1	+	+	+		+	+				
1	+		+		+					
2	+	+	+	+						
1			+							
1			+		+					
1									+	
3		+		+						
1			+				+			
1	+	+		+						
150	46	18	25	21	10	10	2	2	1	48

A monograph of reported cases has recently been written by R. P. Strong. Access to more recent literature is not available here.

The two cases seen here were complicated by other infections. Both patients, however, had diarrhea, which could be attributed to the balantidium, which was found in great numbers in both cases.

Worthy of note also is the relative frequency of *Rhabdonema strongyloides.* The small, yellow, slowly motile ameba, which I have frequently seen in the Philippines, and which is usually considered non-pathogenic, has not been seen in this series of cases.

A CHRISTMAS STORY.

E. S. McKEE, M.D.
CINCINNATI.

About eighteen years ago I was called to see a patient, a recent arrival from Russia, whom we will call Mrs. Blankstein. She was very ill, indeed, and I found it necessary to see her every day for a month, commencing December 15. She recovered, and in due time I sent my bill. In somewhat overdue time her husband came to my office to pay it. The following was his plea: "Mr. Doctor: dat bill you zendt mein vife, he's all dright, but vone dem visits you make mein vife you makes him on a *Grisdmas* day, and I vandt you make me a bresent dat visit you makes mein vife ond Grisdmas day." The request was so original, coming from the source it did, so different from the usual demand of a per cent. off, that I threw off the visit, made him a "bresent" of it, instead of charging him double as I felt like doing for being taken away from my Christmas turkey.

I have had many times the worth of the presented visit telling it to my friends. Almost every Christmas since this occurrence I have been called to some sufferer, poor in this world's goods, and before leaving I have told the story of the Christmas present of a visit and made the patient a present of the Christmas visit I was then making. The happy smile, the brightened eye of the pale patient has been my reward for working when the rest of Christianity was feasting.

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ACCIDENTS AND THE DUTY OF THE STATE.

We all have a hazy understanding that there are too many industrial and other accidents in this country. We realize indistinctly and shudder sympathetically over those appalling federal statistics as to railroad accidents which have convicted us before all Europe of reckless disregard of human life. Indeed, we seem to accept the accident column as a natural accompaniment of our breakfast. It is a permanent feature of the daily papers, though its proportions tend to shrink as the material monotonously increases, so that the death of an obscure person by street-car accident is now not worth more than an inch of type. Yet, in fact, we are all curiously ignorant as to the actual extent and portent of accidents. We have no knowledge of the numbers of non-fatal accidents nor of the disability which results from them, and our only trustworthy figures as to fatal accidents are those concerning railroad accidents and to some uncertain extent accidents in mines. We do know from German statistics that the greatest burden of accidents is borne by certain classes of manual workers: such occupations as those of diggers, teamsters, sailors, miners—occupations in which the man must depend on his own personal strength—are those showing the heaviest proportion of disabling accidents. Recent statistics[1] only confirm the observation of those familiar with the accident wards of our great hospitals. Their occupants belong on the whole to the humblest ranks of the industrial army, and death or disabling injury means in their case usually the reduction of themselves and their families to pauperism. Physicians who have served in such wards will recall many instances of patients technically cured, yet evidently incapable of returning to their former work. The subsequent history of such cases, the long-delayed convalescence, the resulting dependency and even pauperism have never been reckoned up, yet it is the public which must bear the expense of the patient through his hospital treatment and the public which, in many cases, must support him and his family after he leaves the hospital.

Whether it could ever be considered the function of a public hospital to inquire into the nature and causes of the accident cases in its wards is, of course, open to question; yet there can hardly be a question but that the public which pays for the costly hospital service, and in many cases for the maintenance of the family, may properly ascertain through some agency where the responsibility for a given accident actually rests. At present, this work of investigation and of fixing responsibility is not only ignored by the public, but because of public neglect the whole matter has fallen into the hands of exploiters on every side. First, there are the great corporations which maintain private hospitals and impregnable secrecy. Second, there are the employers' insurance associations, which secure the individual employers against the third element, "the personal inquiry lawyer" and his indispensable colleague, the "ambulance shark."

The employer does indeed seem forced to use this expedient of insurance, which relieves him of the costly annoyance of defending suits reasonable and unreasonable, but which at the same time cuts him off from the friendly sense of responsibility for men injured in his service—a responsibility he would naturally both feel and express. The workman, on the other hand, by means of this employers' insurance, is prevented from dealing with his employer directly, and as he has no money with which to pay lawyers', physicians' or court fees, he is driven to practitioners who will accept his case on shares. The patient is really the victim at every point of circumstances over which he can never hope to exercise control. He bears the penalty of the law's delays and sets his puny strength against that of highly organized business enterprises. If after years of waiting he obtains adequate damages, he must content himself with but the share of the monkey in the old fable.

The governmental insurance of Germany shows the first successful effort to bring some sort of order out of this chaos. It has been now a matter of twenty years' experimentation there, and the results are worthy of study. We have not space to give more than the merest outline of the system now in operation in Germany, and already extensively imitated in Austria and other countries. There are already three forms of compulsory insurance established, against sickness, accident and old age. The insurance funds against sickness are contributed one-third by the employers and two-thirds by the employes, accident insurance is a charge against employers only, while the old age or disabilities indemnity is made up of about equal contributions from the employers and the employes, supplemented by a small fixed contribution by the government. These various funds are managed under strict governmental supervision at an astonishingly small expense. The administration charge is stated as less than 8.5 per cent. Embezzlement and misappropriation are unknown. The annual receipts are more than $130,000,000, and 17,000,000 work men and women are contributing to and receiving these funds. It is, however, to the accident insurance and its direct and incidental results that we wish to refer. The following points are especially to be noted: 1, All manner of safeguards of life and limb have been introduced by employers of the various insuring groups;

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[1] "Statistisches Jahrbuch für das Deutsche Reich," 1903.

2, hygienic conditions in places of employment have greatly improved; 3, all possible methods of treatment tending to shorten the period of convalescence after accident and to restore the working power of the patient have been introduced into the hospitals; 4, country convalescent homes have been greatly developed. It is true that superficially there appears to be in Germany a large increase in the number of accidents; that, however, is acknowledged to be due to the fact that all accidents, however slight, are now reported, and a man with a cut finger is sent to a physician. The serious complications which may follow neglect of trivial hurts is thus avoided by prompt attention.

Thus the public does not cease to enforce the employers' responsibility for the injured man until the latter is restored to active labor. The United States is the only great civilized country which continues a wasteful *laissez-faire* policy toward industrial accidents. Russia's new law enforces the employer's responsibility in a way second only to that of Germany, and in like manner France, Belgium and even England have laws which recognize the inevitable powerlessness of the workman to protect himself from the dangers of his occupation.

Doubtless it will be long before we shall see in this country any system of compulsory insurance. Indeed, the very suggestion is repugnant to the average American. Yet no candid observer, least of all any physician of large hospital experience, can doubt that the whole subject of industrial and trade accidents needs examination and publicity and some intelligent and authoritative supervision.

DRUGS AND DIET AND MIND AND STOMACH.

In the deluge of new drugs that has come on the medical profession during the last decade nothing has been more remarkable than the number of remedies suggested for gastric affections. Surely if it were possible to relieve gastric symptoms by drug treatment some one or more of the many remedies offered to the profession would have proved successful. The mineral, the animal and the vegetable kingdoms have been diligently searched and put under contribution to supply therapeutic substances. From the silver and gold which were much more recommended as gastric tonics a decade ago than they are now, down to the almost innumerable forms of ferments of all kinds which have been suggested there has been a veritable flood of remedies for dyspepsia. It has been found in most cases that any one of these remedies if given with proper suggestions as to its efficacy and, if the patients were curiously inquisitive, with added details of information as to its source, would do good for a time at least, though inevitably before long the therapeutic effects ceased to be obtained.

There has come to be a rather general impression, then, that most of these new-fangled gastric remedies, except for a certain amount of tonic stimulation, which their composition always assured for them, owed most of their beneficial effect to the influence on the patient's mind of a new form of drug treatment. In a word, there has come to be a suspicion at least that in this as in the many tonic remedies of less ethical pretentions the only therapeutic effect directly produced has been that of the stimulant, while the supposed specific efficacy was due to mental influence. It has become more and more clear in recent years that a large number of persons—in the words of a distinguished London physician—have not enough brains to run their business and their digestion. If their brains are occupied most of the day with intellectual affairs of any serious kind this is especially sure to be the case. It is the people of the educated classes who know that they have stomachs, who are constantly pestered by the subjective symptoms which that organ gives and who are looking for remedies and modifications of diet that will save them from further annoyance.

There is no doubt that, while their minds are open to receive them, new suggestions often prove of therapeutic benefit, but these suggestions are also to no little extent responsible for the dyspeptic symptoms of which the patients complain. Too much attention is paid to the stomach and its functions, and as a consequence it does not get on well. The centipede, when asked how he could possibly walk with all his legs without getting them confused, is said to have tried to explain how it was done, but got so mixed up that he lay absolutely unable to move. Something of the same thing seems to be true with regard to these dyspeptic patients who nurse their ailments and know all the dietetic rules, especially with regard to getting up from the table hungry, not taking liquids with meals, avoiding certain foods because they have an idiosyncrasy for them, and all the other details whose safeguarding must require such an intense attention at meal time as sadly to demoralize the trophic influences flowing down from the central nervous system.

Long ago, in the early forties, Prof. Austin Flint, the elder, insisted on this connection of dyspepsia with the mind, and then nearly half a century later, in an article[1] read before the New York State Medical Association, called particular attention to the fact that his experience as a physician had completely confirmed the ideas expressed in his original paper. He insists especially that the most important direction that can be given to dyspeptics is to avoid thinking too much about themselves, about their symptoms, their diet, their personal peculiarities as to food and the like, and to tell them frankly that they should not follow so-called rules of health in this matter, but should consult their tastes and their appetites.

He said in a passage which should be in the notebook of every physician: "Do not adopt the rule of eating only at stated periods; twice or thrice daily. Be governed in this respect by appetite and eat whenever there is a desire for food. Eat in the morning or at bedtime, if food is desired. Insomnia is often attributable to hunger. In the choice of articles of diet be distrustful of past personal experience and consider it to be a trustworthy rule that those articles will be most likely to be digested without inconvenience which are most acceptable to the palate. As far as practicable let the articles of diet be made acceptable by good cooking. As a rule, the better articles of food are cooked, the greater the comfort during digestion. Never leave the table with an unsatisfied appetite. Be in no haste to suppose that you are separated from the rest of mankind by dietetic idiosyncracies and be distrustful of the dogma that another man's meat is poison to you. Do not undertake to estimate the amount of food which you take. In this respect different persons differ very widely, and there is no fixed standard of quantity which is not to be exceeded. Take animal and vegetable articles of diet in relative proportions as indicated by instinct. In the quantity of drink follow Nature's indication, namely, thirst. Experience shows abundantly that, with a view to comfortable digestion, there need be no restriction in the ingestion of liquids."

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[1] Transactions of the New York State Medical Association, vol. I, p. 143.

There seems to be no doubt that if this common-sense method of dealing with these frequent and bothersome patients who usually want to take so much time in explaining their idiosyncrasies should be more generally followed we should hear much less of the multitudinous stomach remedies and especially of the far-fetched ferments of whose efficacy there is *prima facie* doubt, though they come lauded with all the alluring pseudoscience of the professional advertising agent. Along this line lies peace and progress for both physician and patient. With intestinal function carefully regulated, it is not digestive specifics, but freedom from worry and a return to pristine habit and instinct that will restore dyspeptics to their place among those with *mens sana in corpore sano.*

THE TREATMENT OF BACTERIAL DISEASES BY VACCINES.

The discovery of the diphtheria antitoxin at the end of the last century gave rise to hopes regarding the treatment of other bacterial diseases, which were soon dashed to the ground. In the years succeeding the discovery of diphtheria antitoxin, a mass of facts bearing on the general subject of infection was collected, and bacteriologists soon realized that bacteria secreting so-called exotoxins were very much in the minority. Most of the bacterial infections to which the flesh is heir are due to germs which produce endotoxins which cannot be combated by the methods used against diphtheria, botulism and tetanus. In his introduction of tuberculin, Koch was the first to suggest a procedure having in view the destruction within the body of an endotoxin-producing organism, the tubercle bacillus. The failure of this treatment, under Koch's own method of administration, is known to all, and has led to its almost complete abandonment.

Some three years ago A. E. Wright, in England, suggested what was a modification in the method of administration, rather than a modification in the principles of manufacture of bacterial vaccines. Wright's work, however, was based on some new observations on the protective mechanism of the human body, in that it was preceded by the discovery that besides antitoxins and other reactive substances, the blood serum normally contains protective bodies which Wright called opsonins. These opsonins, which seem to be present in normal individuals in an almost equal quantity, are reduced before or in the early stages of a bacterial infection, and vary greatly during the course of a bacterial disease. The method of treatment which has been applied to diseases produced by bacteria having endotoxins, such as the *Bacillus typhosus,* has usually been that of inoculation with a vaccine composed of the dead bodies of the bacteria and their soluble products. Hitherto such inoculations have not been based on any accurate method, the dose has been gauged empirically, and the administration has been rather a haphazard performance. The work of Wright has shown that under such methods it was just as easy to do harm to the patient as to benefit him, perhaps a little easier. Wright and other workers, such as Bulloch,[1] have shown that there are times during a bacterial infection when the system is not manufacturing opsonins in normal quantities, and, on the other hand, there are times when large amounts of opsonin are being produced. According to Wright, the manufacture of opsonins, or antitropins as he now calls them, follows a definite law. He calls this the law of the ebb, flow and reflow, and subsequent maintained high tide of immunity. If a patient with a given bacterial disease, say for example, tuberculosis, is inoculated with tuberculin during the ebb in antitropin formation, the result is an actual increase in the poisoning of the individual, and naturally an increase in the severity of the symptoms. If, on the other hand, the individual is inoculated at a time when the system is producing large numbers of antitropins, i. e., during the flow, the inoculation stimulates the system still further to the production of antitropins, and the result is the improvement of the patient.

So far Wright has applied his method mainly to two conditions: tuberculosis and staphylococcus infections. The results of his treatment have been exceedingly encouraging. Most of his work has been done on patients who had been given up after the utter failure of ordinary treatment, and the percentage of cures and improvements is quite high. The method is in many ways quite complicated, requires for its carrying out a laboratory, and needs the supervision of one who has had experience in the work. It is a form of treatment which will almost of necessity fall into the hands of the large hospitals, and which can never be carried out by the general practitioner. So far but little practical work has been done outside of London, where Wright and his associates have worked, but the treatment promises so much, and if successful, will be applicable to so many diseases, that it is to be hoped that it will be given an extensive trial.

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[1] The Practitioner, 1905, vol. lxxv, p. 589.

MAGNESIUM SULPHATE AS AN ANESTHETIC.

Few greater boons have been conferred on humanity than that which has resulted from the discovery and application of ether and chloroform as anesthetics. America may well be proud of the part that has been given to her to play in this matter, and if we read the indications aright further honor is to come to her for new and important discoveries of scarcely less magnitude. The American mind has shown itself to be an eminently practical one, but it is none the less scientific. It is practical because its discernment is clear and its reasoning correct—and science is but applied precision.

The latest exemplification of the foregoing statements is found in the results of a series of experiments carried on by Dr. S. J. Meltzer in association with Dr. John Auer and reported at a recent meeting of the New York Academy of Medicine.[1] These investigators were able to demonstrate the possession by magnesium-salts of hitherto undescribed inhibitory and anesthetic properties susceptible to therapeutic application. Dr. Meltzer had formulated the view that the phenomena of life result from the interaction of excitation and inhibition. Of the four main inorganic constituents of the body it has been shown that sodium, potassium and calcium have a stimulating effect on muscle and nerve. It was, therefore, concluded that the inhibitory activity must reside in the magnesium, and accordingly a study of the salts of this body was undertaken. It was found in animals that intracerebral injections of magnesium sulphate induce a state of general inhibition. It was next discovered that intravenous injections of various magnesium-salts in small amount inhibit respiration and cause paralysis of the entire body; that local applications to nerve-trunks blocked conductivity and abolished excitability; that subcutaneous injections cause deep narcosis, with complete muscular relaxation, while subarachnoid injections cause almost immediate anesthesia and paralysis of the posterior extremities. In addition it was found that intravenous injections of magnesium-salts almost instantly check intestinal peristalsis, while severe tetanus and opisthotonos induced in monkeys by tetanus-toxin can be completely removed for many hours by subcutaneous injection of magnesium sulphate.

The several procedures mentioned having proved innocuous in animals it was decided that they might be applied to man with safety. Accordingly, twelve patients were given intraspinal injections of magnesium sulphate prior to operation at the hands of several surgeons. It was found that the best amount to employ is one cubic centimeter of a sterile 25 per cent. solution to every twenty-five pounds of body weight and the best time for operation is three or four hours after the injection. The effects observed consisted in paralysis of the legs and of the region of the pelvis, with analgesia sufficient to permit surgical operations. Larger doses give rise to profound general anesthesia, with marked depression of respiration. There is also retention of urine, which may persist for one or two days. Sensibility and motility return as a rule within from eight to fourteen hours.

It is not likely that intraspinal injections of magnesium-salts will replace inhalation of ether or chloroform for purposes of surgical anesthesia, but there are times when the latter cannot be practiced with safety, and although the former is not wholly free from risk, it has advantages over other forms of intraspinal anesthesia, and it may be found that it is susceptible of application under the circumstances mentioned. In any event the method is worthy of careful trial.

RECOGNITION OF MEDICAL ORGANIZATION.

In New Orleans there is a popular movement in favor of permitting the Louisiana State Medical Society to nominate the president of the State Board of Health. The Governor, who has the appointing power, has not yet announced his position toward this proposal, but all classes of citizens in New Orleans seem to favor the innovation. This can only be regarded as a genuine recognition of the altruistic services of the medical profession to the community and as an expression of confidence in the purposes and principles of medical organization. We shall hear more of this sort of thing as organization proceeds and fulfills its proper duties.

SUICIDE AND SELF MANSLAUGHTER.

A person who is supposedly sane and who sacrifices his life through willful neglect—whether this be due to pride not permitting him to ask for help or to religious delusions forbidding him to take the needed measures for his preservation—is little different from an ordinary suicide. The London coroner at Rotherhithe, however, makes a distinction. A man had deliberately refused to seek medical aid on account of his belief in faith-healing, and the coroner instructed the jury that since there was no evidence that the man had refused medical advice with the sole object of ending or shortening his life, the verdict could not be suicide by omission or self-neglect. It was, therefore, not a case of self-murder but of self-manslaughter—an offense not recognized in the criminal code. There is a distinction here with a difference, if the man really believed he was going to get well by faith alone, spurning all material aid thereto, but it is hard to see how the criminal law can safely consider such proceedings as without its pale. There seem to us to be large possibilities for evil in such a course. So far as the results to society and the individual are concerned, there is little difference between such a course and suicide, and the law is for the protection of society and the individual. When it comes, moreover, to the aiders and abetters of such transactions, no matter what are claimed to be their motives, it does seem as if the law should have power to intervene, especially when they attempt to apply their principles to the irresponsible and helpless. We must remember also that suicide does not itself always imply moral obliquity. A very large proportion of suicides are clearly irresponsible, and the degree of responsibility in many others is difficult to decide. The distinction, therefore, between self-murder and self-manslaughter seems to be rather a vague one, and we believe it would be better for the community if a coroner's verdict of suicide or homicide by neglect were brought in every case of avoidable death under Eddyism, faith cure and similar methods.

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[1] Medical Record, Dec. 16, 1905, p. 965. See abstract in The Journal, December 30.

BIRTH RATES.

It is a well recognized fact and needs no verification that the poor are more prolific than the rich; the reasons are also well known. According to the *New York World* of November 30, out of 55,000 babies born in the borough of Manhattan only 13 came to fashionable Fifth avenue below Ninety-fifth street. That is only 13 babies in a thoroughfare bordered by the homes of the well-to-do for four and one-half miles. The contrast between these figures and those of the populous sections inhabited by the proletariat is certainly striking enough, and we must think that there are some elements in the statistics that are perhaps deceptive. New York is in the registration area and the figures ought to be correct, but it seems to us as possible that many of the offspring of the rich New Yorkers may be born away from home and thus affect the figures.

THE PRECIPITIN TEST FOR HUMAN BLOOD.

The importance of the precipitin test in determining biologic relationships has been clearly set forth in Nuttall's fine monograph on the subject, and it must be admitted that the facts there instanced certainly tended to diminish the value of the test from a medicolegal standpoint. The relationship between man and the ape, for example, is shown by the fact that the serum of a rabbit inoculated with human blood gives a precipitate not only with human blood, but also, though in less degree, with the blood of the ape. The precipitation of an immune serum by the blood of allied species as well as by the specific blood used for inoculation is a circumstance that naturally prevents the formulation of any such dogmatic statement as seems required by the exigencies of the law. Uhlenhuth's[1] discovery, however, seems to remove this difficulty. The inoculation of rabbits with the blood of the closely-related hare gave rise to a serum which precipitated when mixed with hare's blood, but had no action on the blood of the normal rabbit. Similarly apes inoculated with human blood produced a serum that had high precipitating power for human blood, but was inactive for apes' blood even in low dilution (1:10). These results are somewhat at variance with those obtained by other observers who have found it difficult to produce potent antisera with the blood of closely-allied species. Uhlenhuth explains this, however, by individual idiosyncrasy in the experiment animals, and considers that while some individuals may not lend themselves readily to the production of antisera with the blood of kindred species, others are favorable for this purpose. If his results are confirmed it is evident that when sera produced by this method are used the value of the precipitin test in legal medicine will be greatly enhanced.

THE PATHOLOGIC ANATOMY OF EXOPHTHALMIC GOITER.

So many and such varied anatomic conditions have been found in connection with exophthalmic goiter that it is not easy to decide which are essential and distinctive and which non-essential and accidental. The most common of these consists in certain histologic alterations in the enlarged thyroid gland, to whose overaction the principal symptoms of the disorder appear to be due. Such alterations were found with great frequency by Dr. W. C. Mac Callum[1] in a series of 28 cases studied histologically. They involved the form and size of the alveoli, the character of the epithelial cells, and of the colloid, the vascular supply, the connective-tissue framework and the lymphoid structures of the thyroid gland. The alveoli vary greatly in size and form, the epithelium of many being folded in such a manner as to yield an appearance of sending off long diverticula, which frequently become constricted off and form new alveoli. The epithelium changes from a flat or cubical type to the high cylindrical form. The colloid is markedly diminished in amount and presents a ragged appearance. The vascular supply is extraordinarily rich, the veins being especially large and distended with blood. The latter lie for the most part in the abundant connective-tissue framework of the gland, which is increased in density, considerable bands of fibrous tissue passing through the gland and giving rise to distinct lobulation. The walls of the veins are unduly friable and the connective tissue contains a good deal of lymphoid tissue in the form of circumscribed scattered nodules. In addition circumscribed prominent nodules, composed of a more homogeneous tissue are found in varying number. These are made up of uniform, small, round alveoli, usually separated one from another and embedded in a hyaline connective tissue. They are lined with plump, rather cubical, epithelium, and they may or may not contain colloid material. Cysts of varying size, usually containing a clear greenish, somewhat glutinous, fluid, are also present at times. No bacteria or cell inclusions could be demonstrated and the parathyroid glands were found practically normal in the nine cases in which they were examined. The anatomic picture, it will be seen, corresponds most closely with that of compensatory hypertrophy, which it may be presumed has followed a previous injury to the gland inflicted perhaps by some infectious disease.

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[1] Deutsche med. Wochft., 1905, 31, p. 1673, abstracted in The Journal A. M. A., Dec. 23, 1905, p. 1992.

[1] Bull. Johns Hopkins Hosp., vol. xvi, No. 173, p. 287.

Medical News

CALIFORNIA.

Sanitarium Opened.—Loma Linda Sanitarium, near Redlands, was opened to the public October 1 under the management of Dr. George K. Abbott. It is operated under the methods of the parent institution in Battle Creek, and its régime includes all branches of physiologic therapeutics.

October Vital Statistics.—The returns from 53 out of 57 counties for October show an annual birth rate of 13.1 and an annual death rate of 14.9 per 1,000. During the month 1,873 living births were reported, and 2,117 deaths, not including stillbirths. Tuberculosis was the leading specific cause of death in the state, but of those who died from the disease 11.4 per cent. had lived in the state less than one year.

Personal.—The Point Richmond Board of Health met November 23 and elected Dr. Hawley N. Barney health officer.——Dr. Louis C. Deane, San Francisco, has gone to Germany.——Dr. D. C. Strong, Redlands, has assumed his duties as superintendent of the San Bernardino County Hospital.——Dr. H. Miller Robertson, Arlington, has been elected county physician of Riverside County, vice Dr. Isaac A. McCarty, Corona, resigned. ——Dr. Warren T. Barr has been appointed a member of the Fresno health board vice Jacob H. Parseghlan, resigned.—— Dr. William H. Brooke has resigned as a member of the Alameda board of health on account of removal from the city.—— Dr. Lewis Q. Thompson, Gridley, is seriously ill with septicemia.

GEORGIA.

Insanity Among Negroes.—Dr. T. O. Powell, superintendent of the Georgia State Sanitarium, Milledgeville, is reported as saying that there are 900 negroes now at the State Hospital and that many more are awaiting admission.

Personal.—The governor on December 5 reappointed Dr. Charles J. Montgomery, Augusta, and Dr. William F. Brunner, Savannah, as members of the trustees of the Georgia State Sanitarium, Milledgeville.——Dr. Thomas P. Waring, Savannah, was operated on December 2 for appendicitis and is making satisfactory progress.——Dr. Owen T. Kenyon, Dawson, shot and killed R. E. Dickinson in Atlanta, November 25, in self-defense. No charge was preferred against Dr. Kenyon.

IDAHO.

Epidemic Diseases.—Diphtheria is prevalent to such an extent at Burke that the public schools have been ordered closed and public meetings prohibited.——The publication committee of the Boise Medical Society has issued a circular denying the rumors that typhoid fever is epidemic in the city and stating that the disease is sporadic and that in fully one-half of the cases it was contracted outside of the city.

Society Upholds Dr. Nourse.—Dr. Robert L. Nourse, Hailey, has been fined $300 and costs for contempt of court because of language used in his address before the Idaho State Medical Society, criticising the action of the Fourth Judicial District Court in the case of Dr. Raff against the Idaho Board of Medical Examiners. Dr. Nourse is supported by the state medical society and will make application for a writ of review.

ILLINOIS.

Reappointments.—Dr. Vaclav H. Podstata has been reappointed superintendent of the Cook County Institutions, Dunning, and Dr. Haim I. Davis, county physician.

Smallpox.—Several cases of smallpox have appeared in Jersey, Greene and Macoupin counties, and on December 17 reports were received of the appearance of the disease at Galesburg and Spring Valley.

For a Visit Only.—Dr. Lemuel Tibbetts, Rockford, requests the correction of the statement in The Journal that he was about to move to California. He expects to visit California for two or three months, leaving about the middle of January.

Physicians Vindicated.—In the case of Dr. Joseph R. Hollowbush, Rock Island, charged with perjury by Jerry McCarthy, the state's attorney authorized the dismissal of the case, completely vindicating Dr. Hollowbush.——After a trial occupying ten days the jury in the case of C. E. Demsey against Dr. St. Elmo M. Sala, Rock Island, for damages on the charge of alleged malpractice, returned a verdict for the defendant.

Coroner's Cases.—The coroner of Cook County in his annual report shows that 3,482 cases were investigated in his office since Dec. 1, 1904. Of this number 1,185 deaths were from natural causes and 453 were suicides. Of the latter 159 died from gunshot wounds, 83 from asphyxiation, 11 by jumping from heights, 20 from drowning, 2 from setting fire to clothing, 26 from cutting or stabbing, 6 from jumping under trains, 43 from hanging, and 103 from poisoning.

Dedication of Ottawa Tent Colony.—On December 12 the Tent Colony for the Treatment of Tuberculosis, Ottawa, was formally dedicated. Dr. Frank Billings, Chicago, made the principal address, in which he told in plain terms the latest decision of science regarding the treatment of tuberculosis, and eulogized Dr. James W. Pettit for his work in the cause of humanity. Two years ago the state medical society authorized Dr. Pettit to make this experiment at his own expense. In closing, Dr. Billings said the greatest work that Dr. Pettit has done has been to humanity in general by setting a great living example of right living to all the world, "and these things I say not in flattery, but in envy of the great work that Dr. Pettit has been permitted to do at a great sacrifice to himself." Dr. George A. Zeller, superintendent of the Illinois State Hospital for the Incurable Insane, Bartonville, in his address, praised Dr. Pettit for reducing the per capita cost for the care of tuberculous patients and stated that the modern method of treating tuberculosis was being followed as far as possible in the state institutions. A buffet luncheon was served at the club house and public exercises were held in the pavilion.

Chicago.

Deaths of the Week.—During the week ended December 16, 489 deaths occurred, equivalent to an annual death rate of 12.80 per 1,000, which is nearly 12 per cent. less than the rate of the previous week and the rate of the corresponding week last year, 15 per cent. less than the average December rate of the last decade and 1 per cent. less than the lowest previous recorded rate. Of the deaths 81 were due to pneumonia, 60 to consumption, 35 to nephritis, 33 to violence (including suicide), 32 to cancer, and 30 to heart disease. One death was caused by scarlet fever, 11 by diphtheria, and 4 by typhoid fever.

INDIANA.

Golden Wedding.—Dr. and Mrs. T. B. Noble, Greenwood, celebrated their golden wedding anniversary November 30.

Medical Faculty Entertained.—The University Club of Purdue University entertained the faculty of the Purdue School of Medicine, Indianapolis, at the Hotel Lahr, Lafayette, December 9. President W. E. Stone of Purdue University officiated as toastmaster. Drs. George Kahlo, Indianapolis; Christian B. Stemen, Fort Wayne, and Myles F. Porter, Fort Wayne, responded to toasts.

Laboratory Instruction.—At the health officers' school, held in Indianapolis under the direction of the State Board of Health, December 14 and 15, instruction was given in the work of the pathologic and bacteriologic divisions of the State Laboratory of Hygiene, including demonstration of the Widal test, diphtheria cultures, tubercular bacilli, bacteriologic analysis of water, preparation of specimens for shipment, methods of obtaining analysis from the laboratory, and general laboratory procedure.

Personal.—Dr. William B. Fletcher, Indianapolis, was seized with cerebral hemorrhage December 11, and is critically ill.—— Dr. John M. Nickels, Sellersburg, has been appointed physician for the poor farm of Clark County, succeeding Dr. Charles M. Bottorff, Charlestown.——Dr. Brose S. Horne, Marion, has located at Jonesboro.——Dr. Albert H. Combs has been appointed a member of the health board of Marion.——Dr. Frank G. Jackson has resigned as a member of the Muncie board of police commissioners.——Dr. Samuel E. Smith, superintendent of the State Hospital for the Insane, East Haven, has been appointed expert advisor to the Southeastern Hospital commission.——Drs. Edmund D. Clark, Thomas B. Noble and Frank A. Morrison have been appointed the board of health of Indianapolis.——Dr. Norman E. Jobes has been appointed superintendent of the City Hospital, Dr. Eugene Buehler city sanitarian, and Dr. Edgar F. Kiser superintendent of the city dispensary.——Drs. John C. Wood and Roscoe W. Payne have been appointed members of the Franklin board of health.—— Dr. Frank W. Black, Ligonier, has been appointed coroner of Noble County.——Dr. Irvin J. Becknell, Goshen, has been appointed secretary of the Elkhart County board of health.

IOWA.

Fire Loss.—The residence of Dr. Cassius C. Cottle, Marshalltown, was destroyed by fire November 27, with a loss of $12,000.

Typhoid Fever.—Typhoid fever has assumed an alarming proportion at Estherville. Four deaths occurred in one day last week.

In Fashion.—Des Moines is being visited with an epidemic of grippe, with the neuralgic symptoms recently reported to be prevalent in London.——Sioux City is said to be suffering from a similar epidemic.

Illegal Practitioner Fined.—Dr. J. C. Wilhite, who was convicted November 25 of the illegal practice of medicine, was sentenced to pay a fine of $300 and costs. Wilhite says he will appeal to the Supreme Court.

Personal.—Dr. Benjamin O. Kittleman, Des Moines, was operated on for tuberculosis, December 3, and is making a good recovery from the operation.——Dr. Nicholas Schilling, New Hampton, sailed for home from Naples, December 8.——Dr. Henry C. Young, Bloomfield, was operated on for appendicitis, December 3, and is doing well.——Dr. George M. Kline, Mount Pleasant, has accepted a position on the medical staff of the new State Hospital for the Insane, Ann Arbor, Mich.

KANSAS.

Personal.—Dr. James A. Trowbridge, La Harpe, expects to leave early in January for Europe.

Donation to Hospital.—Dr. Simeon P. Bell has added $20,000 to his donations to the Kansas University Hospital, Rosedale, making a total of $90,000, including the site on which the medical buildings are erected.

Diphtheria.—Yates Center has had 3 deaths from diphtheria. Five residences are under quarantine and schools and other public meeting places have been closed.——During October there were 364 cases of diphtheria reported in the state, with 41 deaths, an increase of 140 over September and an increase of 30 in deaths. The disease is said to be prevalent in 33 counties.——Quarantine measures are being enforced in Oakland.——The schools in Toronto and in Neal have been closed.

Physicians and Political Appointments.—Kansas physicians believe that in the interest of the public welfare the State Medical Society should have something to say as to who should be on the State Board of Health and the State Board of Examination and Registration. The governor of the state, however, seems to think differently. The following excerpt from an editorial in the *Journal of the Kansas Medical Society* gives some idea of the situation:

> At the Wichita meeting three men from each county were selected as representatives of the profession and presented to Governor Hoch with the request that he select new men from this list. The governor saw fit to ignore us utterly, and appointed men who, doubtless on account of their relation to politicians or of their business ability, seemed to him the ideal physicians. But not one of the appointees was in touch with the modern movement in medicine, and, therefore, in spite of their personal charms, were hardly fitted to make and execute laws affecting so vitally our profession.
>
> We do not wish to mix up in politics, but it looks as if Governor Hoch were going to force us to do so. He thinks us a negligible quantity simply because we have not flocked before him and pestered his life with importunities. We evidently must change our policy and get after every politician in every county where we are organized. We can have great influence on even Governor Hoch's renomination and election. We can see to it that every new assembly man is pledged to give us the "square deal"—and to take our side against the vacillations of our Nicolaian governor. Every member will please do what he can for himself in this matter, but more especially hold himself in readiness to respond to Secretary Huffman's telegraphic or written directions.

KENTUCKY.

Medical College Opens.—The Louisville Medical College opened its thirty-eighth annual session December 10, with a lecture by Dr. Clinton W. Kelly.

Sanatorium Opened.—The new sanatorium at Hopkinsville was opened by Dr. C. B. Petrie, November 19, and on that day the Christian County Medical Society held its regular meeting in the building as the guest of the proprietor.

Railway Hospital Service Wanted.—Representative Rihnock, Covington, has introduced a bill into Congress asking for the establishment of a railway hospital service, organized along the same lines as the United States Marine-Hospital Service.

Diphtheria and Smallpox.—Diphtheria has developed at Turner's Station and Smithfield, Henry County. At the former place the school has been closed on account of the disease.——Smallpox has appeared at Middlesboro, where 48 cases are reported.——Several new cases of smallpox are reported in the vicinity of Nepton.

Kentucky Railway Surgeons Organize.—About 40 railway surgeons of the state met at Lexington, December 1, and organized the Kentucky State Association of Railway Surgeons. Dr. Richard C. Falconer, Lexington, was elected president; Dr. Clarence H. Vaught, Richmond, vice-president, and Dr. James B. Kinnaird, Lancaster, secretary and treasurer. The next meeting will be held in Richmond, June 15, 1906.

Health Officer Wins.—The suits filed against Dr. Maverell K. Allen, health officer of Louisville, by George Churchman, a dairyman, to recover $145 alleged damages for loss on milk and to recover $50 for alleged damages to the plaintiff's business, have been decided in favor of the defendant. Last summer Dr. Allen instigated proceedings against Churchman because he failed to produce a certificate that milk furnished him by a Shelby county farmer was from perfectly healthy cows, as required by the city ordinance.

LOUISIANA.

Children's Sanatorium.—A sanatorium exclusively for children is to be located at 850 Carondelet Street, New Orleans, in charge of Dr. Erastus D. Fenner.

Wish to Name State Health Officers.—At a meeting of the governing committee of the New Orleans Health Association, December 5, the following resolution was adopted: "*Resolved*, That it is the sense of this association that the nomination for state health officer be made from the recommendations of the State Medical Society."

Personal.—Dr. Arthur Weber has resigned as a member of the New Orleans Board of Health.——The Shreveport Medical Society on December 6 adopted a resolution indorsing the selection of Dr. Clifford H. Irion, Benton, for president of the State Board of Health.——Dr. J. Ashton Blanchard, Shreveport, has been indorsed for appointment as a member of the State Board of Health by Dr. T. E. Shumpert, a majority of the city council and 25 members of the local medical fraternity.

MAINE.

Released.—Dr. Charles A. Eastman, Old Orchard, convicted of manslaughter a year and a half ago, completed his sentence in the county jail and was released November 29.

Medical Club Meets.—The twenty-eighth annual meeting of the Portland Medical Club was held December 7, at which the following officers were elected: President, Dr. Herbert J. Patterson; vice-presidents, Drs. Chauncey R. Burr and Owen Smith; secretary and treasurer, Dr. George H. Turner, and censors, Drs. Stanley P. Warren, Walter D. Williamson and F. P. Webster.

Fight Smallpox.—In order to prevent the introduction of smallpox from New Brunswick into Maine the State Board of Health has established a provisional inspection service at Vanceboro under the care of Dr. Melvin L. Young, and has petitioned the surgeon general of the United States Public Health and Marine-Hospital Service to establish a permanent station at Vanceboro.

General Hospital Report.—The fourteenth annual meeting of the Central Maine General Hospital Association, Lewiston, was held December 5. The number of patients treated during the year was 1,127, an increase of 65 over the preceding year. At the close of the fiscal year there remained under treatment 49 patients. Of the number under treatment in the hospital 668 were discharged cured, 109 improved, 12 unimproved, 58 were given advice but not treated, and 47 patients died.

MARYLAND.

Graduates Gather Medical Articles.—The graduates of the Johns Hopkins Medical School have sent their "Collected Papers" to Dr. William Osler. They are contained in 12 superbly bound quarto volumes with index and also a table of contents for each. They represent eight years of work and embrace 465 separate contributions relating to a great variety of subjects.

New Hospital Opens.—The new Allegany County Hospital, Cumberland, held its formal opening December 8. The following comprise the directors of the medical staff: Dr. E. B. Claybrooke, president; Dr. C. H. Brace, vice-president; Mr. Arch A. Young, secretary and treasurer; Drs. George L. Broadrup and Arthur H. Hawkins, and Messrs Lloyd Lowens and R. A. Claybrooke. The attending staff is composed as follows: Surgical, Drs. W. R. Foard, E. B. Claybrooke, Henry S. Wailes, Arthur R. Hawkins, George L. Carder and Edwin Harris; medical, Drs. C. H. Brace, George L. Broadrup, C. L. Owens, Willys R. Hodges and E. H. White; eye, ear, nose and throat, Drs. Robert Y. Fechtig and E. L. Jones, and pathologist, Dr. W. R. Foard.

Baltimore.

Opie's Portrait.—A movement is on foot at the College of Physicians and Surgeons to have a portrait of Dr. Thomas

Opie, the late dean, painted, to be hung in the college building. Dr. Opie has given the college library a large number of books.

Personal.—Dr. Howard Kelly, accompanied by four of his children, will leave for a hunting and fishing trip in Florida the last of this month.

Hospital Incorporated.—St. Luke's Hospital was incorporated December 13 by a number of physicians, to conduct a hospital. dispensary and training school for nurses.

Internes Resign.—The four internes at the City Hospital whose resignation was recently noted severed their connection with the hospital, it is reported, because one of their classmates had been placed in authority over them. The vacancies have been filled.

Pasteur Institute Report.—In his annual report of the Pasteur department of the City Hospital, Dr. Nathaniel G. Keirle, director, claims that there has been but one death out of the 775 cases. Three other patients died, but before they had received the full treatment.

Visiting Nurses' Work.—The Instructive Visiting Nurses' Association held its annual meeting December 5. It was addressed by Dr. Lewellys F. Barker and Miss Damer, president of the Association of Nurses of the United States. The report showed that eight nurses had made 23,811 visits, and that a deficit existed of $541. Dr. Barker urged that there was eight times as much work to be done, and that the hospitals can not begin to care for all who need medical attention.

Personal.—Dr. James D. Iglehart is in New York City.——Dr. Santiago U. Samodeville will spend the winter in Havana.——Dr. William H. Welch has been elected a member of the board of trustees of the Carnegie Institute, in place of the late John Hay.——Dr. George A. Hartman has been appointed a member of the jail board.——Drs. Alexander D. McConachie, Arthur Wegefarth and Edward A. Hartman were elected directors of the Northeastern Dispensary.——Dr. B. Merrill Hopkinson has been elected president of the Baltimore Athletic Club for the fourteenth consecutive year.

MASSACHUSETTS.

Rival Candidates Physicians.—The city of Worcester elected for mayor, December 12, Dr. John T. Duggan, a democrat. His competitor was Dr. Melvin G. Overlook, republican.

Insane Hospital Report.—The trustees of the Northampton Hospital report that on October 1 there were 771 patients; 401 were admitted during the year, 303 were discharged and 79 died. Of the admissions, 199 were men and 202 women. Of those discharged, 84 were well, 30 improved and 25 not improved. The weekly cost per capita was $3.57, 21 cents less than last year. Under the new law of the state, 9 patients were boarded out. The average duration of insanity in those who died was 19 years, and the average length of stay in the hospital 9 years.

Hospital News.—At the annual meeting of the North Adams Hospital staff October 31, Dr. Henry J. Millard was elected president, and Dr. Edward E. Russell, secretary; Drs. Frank D. Stafford and Adolphe Mignault were elected members of the advisory board, and Dr. John F. C. Forrester was made a member of the staff.——By the generosity of D. B. Wesson, a maternity hospital will be added to the charitable institutions of Springfield. It will contain 25 rooms and will cost from $100,000 to $200,000.——A. C. Houghton, North Adams, has given a new operating room to the North Adams Hospital.——Mr. and Mrs. F. A. Day, Newton, have presented a new building to Newton Hospital, to be used as a home for nurses, which has cost about $30,000.

MINNESOTA.

Hospital Incorporated.—The United Church Hospital, Minneapolis, was incorporated December 9.

Sanitarium Burned.—Pine Ridge Sanitarium for Consumptives was destroyed by fire December 2, entailing a loss of about $2,000.

Dr. Bly Guilty.—Dr. Theron H. Bly, Minneapolis, was found guilty, on December 8, of performing a criminal operation on Hilda Rosen which resulted in her death. The prisoner was released after filing a $2,000 appeal bond.

Dr. Smeallie's Death.—The widow of Dr. James A. Smeallie, Cass Lake, whose death notice appeared in The Journal of December 9, writes that he died after an illness of nine days from pleuro-pneumonia, and not from tuberculosis, as stated.

Rules Against Physicians' Defense Company.—The attorney-general of Minnesota has ruled against the Physicians' Defense Company in its complaint against the Maryland Casualty Company and other casualty companies which are writing physicians' defense policies in Minnesota. The ruling asserts that not only may the casualty company continue to write physicians' defense contracts, but that hereafter the Physicians' Defense Company must comply with the Minnesota insurance laws, which has not heretofore been required.

MONTANA.

Personal.—Dr. M. William Feenan, Anaconda, has been appointed county physician of Butte County, vice Dr. T. J. McKenzie, term expired.

Medical Examiners Sustained.—After short deliberation December 7, the first jury in the history of the state, composed solely of physicians, returned a verdict sustaining the action of the State Board of Medical Examiners in refusing a certificate to practice medicine to John H. Foley, Great Falls. This jury was subpenaed under the law passed by the last legislature, which provides that a jury of doctors may be subpenaed by a district judge to hear an appeal in such cases.

NEBRASKA.

Faculty Changes.—The following changes have been made in the faculty of the College of Medicine of the University of Nebraska, Lincoln: Dr. Charles W. M. Poynter, adjunct professor of anatomy; Dr. L. B. Pilsbury, instructor in bacteriology and pathology; Dr. John M. Mayhew, instructor in medicine; Dr. Harry H. Everett, instructor in surgical pathology, and Dr. Harry J. Lehnhoff, instructor in surgery.

Hospital Dedicated.—The new Swedish Hospital, Omaha, was dedicated November 19, the dedication address being delivered by the Hon. John L. Kennedy. The hospital will accommodate 28 patients. The medical staff is made up as follows: Dr. Arthur C. Stokes, attending surgeon; Dr. Roy A. Dodge, assistant; Dr. Charles C. Allison, consulting surgeon; Drs. William R. Hobbs, Rudolph Rix, Carl L. F. Swanson and Paul H. Ellis, attending physicians; Dr. Samuel K. Spalding, mental and nervous diseases; Dr. H. L. Akin, diseases of the stomach; Dr. Harry M. McClanahan, diseases of children; Dr. D. C. Bryant, diseases of the eye and ear; Dr. George H. Bicknell, diseases of the nose and throat, and Dr. James S. Foote, pathologist.

NEW JERSEY.

Hospital Incorporated.—The Hospital of the Immaculate Conception has been incorporated at Orange.

Found Guilty.—Dr. Alfred C. Pedrick, Passaic, on December 5 was found guilty of performing a criminal operation on Mrs. Mary Steinberg, Passaic, by reason of which she was placed in imminent danger of death. Sentence was deferred.

Contagious Diseases.—There have been reported 18 cases of scarlet fever in Paulsboro and two of the schools have been closed. Two cases of diphtheria have also developed.——Dunellen is under quarantine on account of the prevalence of diphtheria.

Personal.—Dr. William H. Shipps, Bordentown, has been elected acting secretary of the State Board of Medical Examiners, vice Dr. E. L. B. Godfrey, Camden, away on leave of absence.——Dr. Henry B. Whitehorn, Verona, has been chosen president and Dr. Edwin M. Ward, Bloomfield, vice-president, of the Mountain Side Hospital staff, Montclair. Dr. Charles H. Bailey, Bloomfield, has resigned as president of the hospital.——Dr. H. H. Tomlin, Hammonton, has been appointed junior resident physician at the Altoona (Pa.) Hospital.

NEW YORK.

Physicians' Club.—The physicians of Poughkeepsie have formed a club for scientific and social discussion, to meet monthly at the houses of its members.

Resolution Against Tuberculosis Hospital.—The Medical Society of Richmond County has adopted a resolution condemning the proposition to build a $2,000,000 tuberculosis hospital in Richmond, declaring that the climate there was detrimental to the successful treatment of this disease. It is claimed that such an institution would be detrimental to the health and best interests of Staten Island.

New York City.

Medical Officer for the Comptroller.—The post of medical examiner for the finance department, with a salary of $2,500, was created on the recommendation of Comptroller Grout. The duty of this officer will be to look after the claims against the city for damages for personal injuries.

Aid for Hebrew Sanatorium.—The following additional subscriptions have been received for the Sanatorium for Hebrew

Children at Rockaway Park: Charles L. Hallgarten, $500; Sigmund Newstadt, $500; Mrs. A. Scheitel, $150. The subscriptions for this institution now amount to about $25,000.

Bellevue Rebels.—Bellevue has rebelled against drunkards. Dr. A. Armstrong has issued an order that plain alcoholic patients will not be extended the courtesy of the hospital during the sobering-up process. It is feared that this order may cause a rupture between the hospital authorities and the police, for the latter have repeatedly mistaken cases of fractured skull for alcoholism.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 9, 429 cases of tuberculosis, with 177 deaths; 572 cases of measles, with 7 deaths; 334 cases of diphtheria, with 40 deaths; 187 cases of scarlet fever, with 6 deaths; 94 cases of typhoid fever, with 13 deaths; 34 cases of cerebrospinal meningitis, with 15 deaths, and 222 cases of varicella. This is a total of 1,872 cases, with 258 deaths.

For Psychical Research.—Prof. James H. Hyslop has issued a prospectus of the American Institute of Scientific Research that has just been incorporated and which intends to study abnormal psychology. It is intended that the institute shall be something like the Salpêtrière under Charcot and Pierre Janet. It is proposed to study loss of the sense of personal identity, persistent hallucination, amnesia, psychic epilepsy, melancholia and paranoia.

Institute Soon to be Opened.—The Rockefeller Institute for Medical Research, to which John D. Rockefeller has given $3.000,000, will be ready for occupancy the first week in January. The site includes 26 city lots. Appointments to the staff of the laboratory will be announced soon by the board of directors. The institute will continue to aid investigators in this country and in Europe. There are now 20 men working under the auspices of the institute outside of New York. Grants of money are made to students in medical research.

Tuberculosis in New York City.—The third annual report of the committee on the prevention of tuberculosis of the Charity Organization Society says: "The tuberculosis situation in New York City is unique. At once we have, though not the highest death rate, a larger number of deaths and a far greater number of cases of sickness than any other city in the country; at the same time tnat we have a system of public and private control of the disease that with more candor than modesty we may claim as the superior of any elsewhere existing in the United States." The charity department maintained 3,959 patients in its own hospitals last year, and paid for the treatment of 783 patients in private institutions each month. The other agencies for fighting tuberculosis were eight special dispensaries, the special arrangements at Bellevue Hospital, the seaside work for improving the condition of the poor, and several others.

OHIO.

St. Alexis Alumni Meet.—The regular meeting of the alumni association of resident physicians of St. Alexis' Hospital, Cleveland, was held December 7 at the Hollenden Hotel.

Epidemics.—On account of an epidemic of scarlet fever at Jefferson the primary grades of the public schools have been ordered closed, and all Sunday schools in the town have been ordered to discontinue their sessions.——The public schools of New Philadelphia have been closed by the board of health on account of an epidemic of diphtheria; the rehearsals for an amateur theatrical performance were ordered discontinued; Sunday schools were not open for children, and children were prohibited from gathering in groups in the streets and in their homes.

State Hospital Report.—The forty-sixth annual report of the directors of Longview Hospital shows that the average of patients was 1,100, and the total number of deaths for the year, 61. The current expenditures were $184,194.20. During the year the county expended for permanent improvements $54,335.89.——The thirteenth annual report of the trustees of the Massillon State Hospital shows that the last of the new buildings authorized in 1904 is practically completed, and that there remains to be erected only one building, which is to be fireproof and designed as a hospital. During the year 404 patients were admitted and 390 were discharged, of whom 136 were considered cured, 57 improved, 13 unimproved, and 184 dead. The percentage of recoveries was 33.66. The superintendent reiterates in his report his frequently expressed opinion that inebriety is surely the forerunner of insanity. The per capita cost per annum was $108.70, or, including officers' salaries, $114.84.——The charges made by Dr. James F. Kelly, assistant superintendent, and by a clergyman of Cleveland, against the superintendent and steward of the Cleveland State Hospital, were investigated by the board of trustees and not sustained. Dr. Kelly resigned.——The commission appointed to select a site for the proposed new State Hospital for the Criminal Insane has selected a site offered by the city of Lima.

PENNSYLVANIA.

Portrait Presented.—At the regular meeting of the Erie County Medical Society, November 15, it was announced that a large portrait and all the books of the late Dr. Charles Brandes had been presented to the society by the heirs.

Personal.—Dr. William N. Stein, Shenandoah, a member of the local board of health, was appointed state medical inspector for the Shenandoah district.——Dr. Solon C. B. Fogel, Allentown, while alighting from a trolley car, December 13, fell and fractured his left leg.

Pure Food Report.—The report of the state dairy and food commissioner, published November 24, states that the results obtained by the department indicate the need for legislation regulating the manufacture and sale of drugs and chemicals. The department found that from 50 to 75 per cent. of spices are adulterated and that adulterants are used freely in confections, soda-water, jellies, jams and preserves. The investigations disclosed furthermore that certain "pure rye whiskey" is nothing more than a mixture of alcohol, prune juice and caramel. Certain brands of so-called fruit syrups, the report states, do not contain a particle of the fruit for which they are named.

Philadelphia.

Personal.—Dr. John M. Fisher has been appointed visiting chief gynecologist to St. Agnes' Hospital.

Bequests.—By the will of the late Margaretha K. Engel, the German Hospital receives $1,000.——The will of the late Solomon J. May contains a bequest of $150 for the Jewish Hospital.

Chickenpox on Steamship.—Twelve cases of chickenpox were discovered on the arrival of the steamship *Merion* at this port, November 22. The patients were removed to the Municipal Hospital.

Reading's Relief Report.—The statement of the Philadelphia & Reading Relief Association for November showed an expenditure of $23,714.80, of which $12,350 was paid for deaths and $11,364.80 for disability. The number of deaths was 22, of which 8 were from accidental and 14 from natural causes. Twelve hundred and thirty-five new cases were reported.

Bacteriologic Report.—The report of the bacteriologic laboratory of the Health Bureau for November shows that 1,295 diphtheria cultures were examined, 400 Widal reactions were made, 906 specimens of milk and 113 specimens of sputum were examined, and 3 disinfection tests were performed. The report also shows that 3,134,000 units of antitoxin were distributed.

Health Report.—The total number of deaths from all causes reported for the week reached 509, as compared with 479 reported last week, and 519 reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 10; measles, 5; diphtheria, 13; tuberculosis, 51; cancer, 17; apoplexy, 32; heart disease, 58; acute respiratory disease, 94; enteritis, 17; Bright's disease, 47; old age, 8; suicide, 7; accidents, 21, and marasmus, 8. There were 240 cases of contagious disease reported, with 26 deaths, as compared with 291 cases and 29 deaths for the previous week. Typhoid fever shows a falling off, as 111 cases only were reported this week as compared with 152 for last week.

Indiscriminate Sale of Drugs.—It has been discovered that narcotics, particularly cocain and morphin, are being sold by certain druggists in the rougher section of the city. Several young men have been discovered wholly under the influence of narcotics. Arrests have been made and it has been learned by the authorities that the cocain habitués have obtained the drug by a secret cipher code. The key to the code was given by one of the victims to the captain of detectives. The key was then tried by the captain and the drug secured. The Philadelphia Association of Retail Druggists, at a meeting December 8, adopted resolutions denouncing all pharmacists who abuse the cocain laws. Each of the druggists thus far arrested has been held in $1,000 bail.

Medical Inspection in November.—The report of the division of medical inspection for November shows that 4,705 inspections were made, excluding schools; 842 fumigations were ordered; 26 patients were examined for special diagnosis; 426 cultures were collected; 495 vaccinations were performed, and 226 injections of antitoxin were given. The report further shows that 6,030 visits to the schools were made and that 994 children were excluded from attendance on account of disease. In all 30,524 pupils were examined and 5,310 found to be in need of medical attention. The principal diseases for which children were excluded were: Diphtheria, 14; scarlet fever, 15; measles, 15; variola, 34; ringworm, 34; tonsillitis, 58; mumps, 13; unvaccinated, 228; sprain, 1; abscess, 1. Of the 5,310 pupils recommended for treatment there were: Defective vision, 1,995; defective hearing, 166; defective speech, 19; defective teeth, 493; nasal catarrh, 113; tonsillitis, 8; eczema, 204; cataract, 1; infected wounds, 22; abscess, 19; sprains, 5; fractures, 3; carbuncle, 1; bronchitis, 18; jaundice, 1; rheumatism, 2, and revaccination, 32.

VERMONT.

Diphtheria.—Diphtheria is reported to be prevalent among the children of Burlington, and the health officer, Dr. James W. Courtney, has been instructed by the State Board of Health to make a physical examination of all children of the public schools.——Because of the appearance of diphtheria, the high and graded schools at Winooski have been ordered closed.

Benefit for Hospitals.—Nahum P. Kingsley, Rutland, has given the Rutland Hospital Association his personal check for $1,000, to be held as a trust fund, and the interest used in the maintenance of the institution.——The court has directed the executor of Col. William Austin to pay the bequest left by him for a hospital in Brattleboro to the authorities of the town, to be paid over to the hospital trustees when required.

VIRGINIA.

New Hospital.—John B. Newton, vice-president of the Virginia Iron, Coal and Coke Company, Bristol, has donated a suitable piece of land for the erection of a hospital to cost $50,000.

Hospital Secured.—The directors of the Norfolk Protestant Hospital secured, by public subscription, $11,000 of the $24,000 necessary to obtain the donation of $18,000 offered by Messrs. George L. Arps, J. W. Perry and Fergus Reed, to place the hospital out of debt, decided to underwrite the $13,000 remaining, and called on the provisional donors for the payment of the amount pledged.

WISCONSIN.

Do Not Want Names Published.—At a meeting of the Fond du Lac County Medical Society, November 9, a resolution was adopted in which the society requests that the newspapers of the city refrain from publishing the names of physicians connected with operations or accidents.

Doctors Must Take Oath.—Judge Brazee, Milwaukee, has issued an order regarding practice in the Municipal Court, to be known as rule No. 16, which sets forth that "certificates of physicians presented to the court must be subscribed to by the physician and must be sworn to by him before some official authorized to administer an oath."

Injunction Dissolved.—Dr. J. A. Schmidt, Brillion, was granted an injunction a few weeks ago against Dr. Edward Meyer, who was forbidden to practice medicine in Brillion. The restraining order was modified to permit Dr. Meyer to treat the patients he had at the time the injunction was granted. Dr. Schmidt claimed that he had a contract in which Dr. Meyer transferred certain personal property to Dr. Schmidt, including his "field of practice in this community." Judge Burnell, at Oshkosh, has decided to dissolve the injunction and Dr. Meyer is allowed to practice, but is required to make an accounting on the business done by him to the court.

GENERAL.

Yellow Fever in Cuba.—Cases of yellow fever are still reported from in and around Havana. Cases are being reported as occurring outside of what has been known as the infected district. Dr. von Ezdorf, of the Public Health and Marine-Hospital Service, reports that rain has prevailed the latter part of the week, which is unusual for this time of year. In looking over the record of yellow-fever cases reported, he states that it is interesting to note the large proportion of individuals who have contracted the disease after a short residence on the island. On December 13, two additional cases of yellow fever were reported at Colon, in the province of Matanzas.

Hawaiian Medical Association.—The annual meeting of this association was held November 18. Health affairs were discussed at some length. Dr. Day pointed out that typhoid causes a high death rate in Honolulu and urged that a better water supply should be provided. Dr. Goodhue urged the establishment of a school of tropical medicine in Honolulu, and a committee was appointed to consider the matter and report. Dr. Hodgins spoke on infant feeding and started an interesting discussion on the respective merits of condensed and sterilized milk. Dr. Peterson, superintendent of the insane asylum, declared that insane patients or those suspected of being insane are not treated as sick persons, but are arrested and thrown into jail and receive treatment that is not at all a credit to the community. The statements were corroborated by other members of the association, and a committee was appointed to consult with the bar association concerning appropriate legislation that might be submitted to the next legislature. A number of members visited the Russian cruiser *Lena*, where, as the guests of Dr. Vladimir Zabotkin, they received most courteous treatment.

Yellow Fever News.—Havana, on December 8, reported up to that date 48 cases of yellow fever, with 14 deaths. On December 11 it was reported that 15 cases were under treatment. There are now 445 men employed in the yellow-fever brigade, of whom 325 are engaged in fumigating, 100 are applying petroleum to all stagnant water, and 20 are inspecting tanks, barrels, etc. Two physicians have been fined $50 each for failing to report cases.——Arkansas finds that its military quarantine cost $36,000, all spent in maintaining a quarantine of the good old-fashioned shotgun type.——Augusta, Ga., spent $2,764.45 on its yellow-fever quarantine.——The state of Tennessee spent $10,300 in quarantine.——The work of the American Mosquito Extermination Society, New York, is commencing to be felt.——Oklahoma school authorities have about decided to include the mosquito doctrine among t[illegible] jects of study.——Surgeon J. H. White, [illegible] Health and Marine-Hospital Service, has been detailed to the New Orleans station. He will have as his assistants Passed Assistant Surgeons Corput, Wilson, and McKeon, all of whom saw service during the recent epidemic.——The New Orleans Health Association, on December 10, by a vote of 25 to 7, passed a resolution demanding the resignation of Health Officer Kohnke on the ground of loss of public confidence. They also appointed a committee to visit Governor Blanchard and to ask him to permit the State Medical Society to name the president of the State Board of Health.

First Meeting Under Amalgamation.—The new house of delegates of the Medical Society of the State of New York met in Albany December 14, including the chairmen of the standing committees and the joint committee of ten. The secretary was ordered to notify all county societies of the fact that they should reorganize so as to agree with the constitution and by-laws, which was part of the agreement of amalgamation. All association members were also to be notified. The counsel who made application for consolidation gave the opinion that the order from the Supreme Court judge made all members of the New York State Medical Association who are in good standing members of the Medical Society of the State of New York on the receipt of a certificate of the president and secretary of the state association. It was decided to continue the journal and the medical directory and to continue the malpractice defense for the members of the Medical Society of the State of New York. The president and secretary were ordered to continue the journal for January and February, and a committee to be appointed by the president is to select an editor and to report at the annual meeting of the House of Delegates next month. A committee of five was appointed, of which the president is one, to carry out the referendum as per Section 7 of the court order relating to the Principles of Ethics of the American Medical Association. The constitution of the American Medical Association provides that when any state medical society is reorganized according to the plan of the American Medical Association, and by resolution expresses its allegiance to that body, it then becomes a constituent branch of it. Such a resolution was [illegible] l. The per capita assessment on members [illegible] placed at $3.00. A tentative constitution and by-laws for county societies was submitted as being suggestive and which might be adopted with very slight alteration by the several county medical societies of the state.

FOREIGN.

Endowment for Scientific Research at Berlin.—A Berlin lawyer has given $12,500 to start a fund to supply financial aid to scientists studying important problems in the natural sciences, including biology and medicine.

Congress of Balneology.—The German and Austrian balneologic societies will unite in a congress to be held at Dresden in March. Liebreich will preside. The general secretary of the German association and of the congress is Dr. Ruge, Berlin W., Magdeburgerstrasse 31.

Plague in Japan and China.—Assistant Surgeon Ransom reports that plague has been declared epidemic in Osaka and Kobe. In Osaka, from November 2 to 17, there were 23 cases, with 15 deaths. Shanghai and Chefoo have declared quarantine against Nieuchwang on account of plague.

Organization of Anglo-Mexican Association.—The first meeting of this body is to be held at Torreon, Mexico, in January. At first it was proposed to limit the membership to physicians in northern Mexico, but later it was decided that all English-speaking physicians in the republic should be eligible for membership.

Skoda's Centennial.—The profession of Vienna united in a memorial meeting on December 11, the hundredth anniversary of the birth of Josef Skoda. He was professor at Vienna for only twenty-five years, but during this period won international fame by his study of physical methods of examination. He resigned his chair in 1871 on account of illness, and died ten years afterward.

Czerny to Devote Himself to Cancer Research.—It is reported that Prof. V. Czerny is to retire from the surgical clinic at Heidelberg in order to devote his energies exclusively to the Institute for Cancer Research, which was recently founded there mainly by his efforts and donations. Garrè, who recently took Mikulicz's vacant chair at Breslau, is suggested as Czerny's successor. Nearly $200,000 have been subscribed for the new cancer institute.

Beriberi Arrives at Glasgow.—The danger of the introduction of tropical diseases to other countries through the media of vessels and their crews seems to be a very real one. On December 2 two Chinamen, both firemen on board the steamer *Peleus*, which arrived in the Clyde from the Far East, via Marseilles, were discovered to be suffering from beriberi, and were removed to Belvidere Fever Hospital, Glasgow. All precautions are being taken by the sanitary authorities.

Catalogue of Ancient Medical Works.—The *Deutsche med. Wochft.* announces that the Copenhagen and the Berlin academies of science have united in publishing a catalog of all the Greek and Latin medical writings that have been handed down to us from antiquity. This catalog is to be preliminary to the suggestion that the International Association of Academies of Science undertake the task of publishing a complete scientific edition of the collected works of the physicians of antiquity. The plan is to be proposed at the next general meeting of the delegates of the association, which will be held at Vienna during the spring of 1907.

International Congress of Gynecology, St. Petersburg, September, 1906.—The committee of organization of this congress, which was postponed from last to next September, is said to be actively at work preparing for the meeting. The committee includes twenty of the most prominent gynecologists of Russia, with D. von Ott as chairman. Prof. P. Sadowski, Newski Prospekt 90, is secretary general of the congress, while Dr. Redlich has charge of the exhibition annex. His address is Spasskaja 25, both in St. Petersburg. The *St. Petersb. med. Wochft.* states that the committee requests prompt notification in regard to communications to be presented, so that summaries can be published and distributed in time. Our exchange adds, further, that trips to the Caucasus, Crimea and down the Volga will be offered the members of the congress at reduced rates. The same journal states elsewhere that Professor von Ott has been removed from the superintendency of the Gynecologic Institute at St. Petersburg, his place having been taken by Dr. Salaskin. No reasons are assigned for his removal from the famous model institution erected under his supervision.

The Austrian Society to Combat Quackery.—The program adopted by the Austrian society, whose foundation was mentioned in these columns last week, includes efforts to enlighten the people and banish superstition by popular lectures on anatomy, physiology and pathology; by replies on the spot by bright and able medical speakers when statements are made abusing science during the meetings of antivivisectionists, nature healers or other faddists; by analyses of secret remedies and publication of the results, as is being done by the Germans at some places, and by rigid enforcement of all measures tending to restrict the practice of irregulars. The president, Professor Kassowitz, emphasized the fact that quackery is constantly sapping the foundations of science and discrediting its results. The necessity for enlightening the people in this respect is well brought out by a Vienna correspondent in the *Muench. med. Wochft.* for December 5. He states that a bill appropriating less than $8,000 for public vaccination purposes in a certain district was passed by the legislature for lower Austria by a majority of only one vote. The deputies were almost evenly divided on the question of the necessity of vaccination. One asserted that if physicians were not paid for vaccinating people there would soon be plenty of testimony to the effect that vaccination does no good.

The Nobel Prizes.—Only one physician is honored with one of the Nobel prizes this year, Robert Koch. The other recipients are A. von Baeyer, Munich, an authority on organic chemistry, and P. Lesnard, of Kiel, for researches on the cathode rays. The author of "Quo Vadis," M. Sienkiewicz, receives the prize given for idealistic literature, on account of his trilogy of Polish historical novels, while the Baroness von Suttner is given the peace prize for her works and writings to promote the cause of peace. The career of Robert Koch is known to all our readers, as his name is so closely connected with modern bacteriology and serotherapy. He is not content to rest on his laurels, but is constantly seeking new worlds to conquer, having just completed a year of research in Africa. The important results of his labors were mentioned on page 1888 of our last issue. He was born in Clausthal Dec. 11, 1843. His epoch-making bacteriologic discoveries first attracted attention to him in 1876 while he was serving as district physician in Prussian Poland. Aft [illegible] at Göttingen he served as assistant in the [illegible] and then opened an office at Langenhagen and later at Rackwitz until, in 1872, he was appointed district physician at Wollstein, near by. Here he remained until 1880, when he was summoned to Berlin as a member of the Imperial Council of Health. His discovery of the tubercle bacillus followed two years later and of the cholera bacillus the following year. He was appointed director of the newly founded Institute for Infectious Diseases at Berlin in 1891, and his announcements in regard to tuberculin laid the foundation of serotherapy not long after. His trip to Africa in 1896 added to our knowledge in regard to malaria, the immunity of adults and means of prophylaxis. The Nobel prizes were founded by the inventor of dynamite, Alfred Nobel. They amount this year to about $40,000 each. The trustees in charge of the awarding of the prizes do not seem to be aware that there is such a continent as America on the globe, but the lengthening list of the recipients of the prizes is gradually becoming a hall of fame for the great men of Europe. Germany, France, England, Spain, Switzerland, Russia, Sweden and Denmark have each been honored with one or more prizes. The physicians who have received the medicine prize to date are von Behring of Germany, Major Ross of England, Finsen of Denmark, Pawlow of Russia and Robert Koch.

LONDON LETTER.

The London Milk Supply.

Dr. Collingridge, health officer of the city of London, has made a very unfavorable report on the milk supply of the metropolis. Last year bacteriologic examination of samples of milk from 22 counties showed that only 19 out of 39 were clean and pure. Since then the investigation has been continued and samples of milk from 22 counties have been submitted to Dr. Klein for examination. He found that 15 out of 22 samples were clean and pure; 5 were unclean, and 2 contained the *Bacillus tuberculosis*. These results point to the grossest carelessness, amounting, in fact, to criminal negligence. Several guinea-pigs which were injected with the milk died from extensive pneumonia or typical septicemia, with copious presence of *Bacillus coli communis* in the blood, and in all the viscera, or acute peritonitis. One-third of the samples examined were thus unfit for use.

Bovine Typhus in Egypt.

Egypt has been officially declared free of bovine typhus and the provincial cattle markets, which have been closed for two years or more, will be reopened, provided that no fresh outbreak occurs. This disease has swept away $5,000,000 worth of cattle, and Koch, on his return from his rinderpest campaign in South Africa, was called on to advise the Egyptian government as to the means of exterminating it. He prescribed the complete isolation of diseased animals and serum inoculation. Some time after his visit to Egypt the disease seemed to increase in virulence and skeptics shook their heads with regard to his advice, but the sanitary department was in capable hands and an extensive inspectorate was established throughout Egypt and in the long run Koch's measures have prevailed. The serum institute at Abasieh is being closed, but a large quantity of rinderpest serum is being kept in cold storage for emergencies. Intelligence has just been received at Cairo that cattle plague has broken out anew in the Sudan. Serum is being dispatched from Cairo with several veterinary inspectors who can now be spared from duty in Egypt.

Distribution and Spread of Sleeping Sickness in the Congo Free State.

At the Epidemiological Society, London, Dr. J. L. Todd read an important paper on this subject, based on observations and inquiries made during a journey of 2,000 miles and a residence of two years in the Congo by himself and the late Dr. Dutton, who had been sent out by the Liverpool School of Tropical Medicine. Dr. Todd exhibited three spot maps showing the prevalence and distribution of the disease—one for 1884, when European influence was only coming into existence and sleeping sickness followed the native and Arab trade routes; a second for 1897, when the Arabs were expelled, and with the extension of long-distance transport by caravans and steamboats the disease spread in every direction, and a third for 1905, when European supremacy being fully established, and transport being easy and rapid, there was an enormous extension of the trypanosomiasis mainly from aggregation at posts along the lines of trade of native soldiers and laborers, often recruited from infected districts. The intermediate host of the *Trypanosoma gambiense* (the parasite of sleeping sickness), the *Glossina palpalis*, though not aquatic in its larval stage, prefers moist places. The areas of greatest prevalence are the river sides and shores of lakes. Frequently riverine populations show an incidence of trypanosomiasis of from 15 or 20 per cent. while the natives on higher ground escape. The chronicity of the disease is such that the parasites may be present for as long as fifteen years without producing symptoms. On the other hand, death may occur a few months after infection. The alarming spread of the sickness demands vigorous measures. In default of curative treatment Dr. Todd thinks that the only practical procedures are: 1, Establishment on the main roads leading to healthy districts of posts of inspection; 2, expulsion from healthy districts of persons having enlarged glands and their removal to infected districts; 3, control over the migration of the natives. In the diagnosis gland palpation is sufficient for practical purposes, though puncture would be required for scientific.

The Tuberculous Children of London.

At a meeting of the Invalid Children's Aid Association to discuss the action to be taken with regard to children affected or suspected to be affected with pulmonary tuberculosis, Sir William Broadbent, in an address entitled "The Tuberculous Children of the Metropolis," said that it was remarkable that while consumption, the most prevalent form of tubercular disease, has steadily diminished year by year for the last 30 years, there has been no corresponding diminution in the death rate of the tuberculous affections which are specially incident in childhood—meningitis, peritonitis, tabes mesenterica, disease of bones and joints, and scrofulous glands. On the contrary, these have increased. During the years 1901-03 in London 6,391 children under 5 died from different forms of tuberculosis; of these 2,894 died before the age of one year, the mortality decreasing rapidly with every successive year of life. The association can do little or nothing for cases of true pulmonary consumption which come under its cognizance beyond sending the children in early stages into the country. Such cases constitute a small minority of the affections of the lungs met among London children. It is astonishing what an amount of damage to the lungs is survived with apparent restoration of health and vigor. Sequels of measles, whooping cough, bronchitis and other affections are often mistaken for consumption and there are no cases in which fresh air and good food make a greater difference. A child otherwise condemned to lifelong delicacy and suffering, by a change to the country or to the seaside, may be made permanently well. The association should be encouraged to take charge of children suffering from disease of the lungs of whatever kind. In France far more attention has been paid to this question. In England an excellent beginning had been made in the Millfield Home, on the south coast near Littlehampton, for children suffering from pulmonary tuberculosis, under the control of the metropolitan asylums board. For children above the pauper class there is very little accommodation. Sir William Broadbent condemned the so-called comforter or teat, constantly seen in the mouths of infants of all classes, as an invention of the devil. It is, he said, a fraud on the unhappy child; it leads to waste of the digestive secretions, and it picks up every kind of filth when it falls on the floor. On reviewing the whole question, he said that what impresses him is the extent of the demand for institutional accommodation and the inadequacy of the provision. A resolution was carried approving of the practice of the association in endeavoring to make possible early and efficient treatment of children suffering from surgical tuberculosis by assisting to pay for them in nursing homes and special hospitals.

Pharmacology

The Press Committee of the Proprietary Association.

As a matter for publicity, we give below a list of the members of the Press Committee of the Proprietary Association. This committee is doing some very effective work in supplying to the newspapers of the country, which are willing to be dictated to, material to counteract the exposing of frauds in "patent medicines." It will be noticed that this committee represents some of the worst among the "patent medicines." What will be of special interest to physicians, however, is the fact that there are men on the committee who represent preparations that are being advertised to the medical profession through medical journals. For instance, Scott & Bowne, who, besides their "patent medicines," exploit to the public and to the medical profession "Scott's Emulsion." Wells, Richardson & Co., of "Paine's Celery Compound" fame, appeal to the medical profession to help them sell their "Cereal Milk." W. A. Talbot represents on the committee "Piso's Cure for Consumption," but who, at the same time, is with the Micajah Co., and is appealing to physicians to use "Micajah's Medicated Uterine Wafers." This is another bit of evidence to convince those not already convinced that we can not separate the so-called "patent medicines" from the "ethical proprietaries." The following is the list:

A. H. Beardsley, chairman (Dr. Miles' Nervine, etc.).
F. W. Schumacher (Peruna).
S. W. Bowne (Scott's Emulsion, Buckthorn Cordial).
H. E. Bucklin (King's New Discovery, Electric Bitters, etc.).
D. S. Chamberlain (Cough Remedy, Pain Balm, etc.)
R. R. Land (Swamp-Root Kidney, Liver and Bladder Cure, etc.).
E. C. DeWitt (Little Early Risers, Dyspepsia Cure etc.).
J. F. Hindes (Bromo-Seltzer, Rheumatic Cure, etc.).
H. B. Foley (Foley's Kidney Cure, etc.).
O. E. Foster (Doan's Kidney Pills, Burdock Blood Bitters, etc.).
W. T. Hanson (Pink Pills for Pale People, etc.).
H. L. Kramer (Cascarets, Kidney Pills, etc.).
G. A. Newmann (California Fig Syrup).
J. A. Patten (Wine of Cardui, etc.).
C. A. Rucker (Swift's Specific).
C. I. Shoop (Shoop's Restorative).
C. G. Hopkins (Liquozone).
F. A. Stuart (Dyspepsia Tablets, Absorbent Lozenges).
W. A. Talbott (Piso Cure for Consumption, etc.; also Micajah's Medicated Uterine Wafers).
G. B. Rowell (Ripan's Tabules).
J. T. Wetherald (Lydia E. Pinkham's Vegetable Compound, etc.).
G. B. Van Cleave (Paine's Celery Compound, etc.).
I. M. Clark (Laxative Bromo-Quinin Tablets, etc.).

Not Members of Proprietary Association.

Among the list of members of the Proprietary Association of America, which we published Nov. 18, was mentioned the firm of Fairchild Brothers & Foster. They write that some years ago they consented to join the association because of their interest in the matter of trademarks, but that they never took any active interest in the association or attended its meetings. They say: "Believing that our judgment was at fault in this matter, we have resigned our membership."

Opportunities for Missionary Work in China.

We wish to direct the attention of nostrum manufacturers to a recommendation made by Consul George E. Anderson of Amoy, China. Writing concerning business and professional opportunities in China, he says: "The Chinese are favorable to the patent medicine business if it can be brought within their reach. They naturally take to such a method of treating diseases, and remedies advertised as they are in the United States and Europe would have a big sale in China, provided the prices charged for them would be within the reach of the middle class." Some patent medicine men, in connection with their threats to sue certain publications which have exposed the fraudulent nature of their business, stated that these exposures have occasioned much loss of patronage; they, therefore, may need a new field in which to push the sale of their products. To judge from this report of Consul Ander-

COMPARATIVE TABLE SHOWING THE STRENGTH OF THE MORE IMPORTANT PHARMACOPEIAL SUBSTANCES AND *PREPARATIONS* IN THE PRECEDING AND IN THE PRESENT PHARMACOPEIA.

Title.	Chief constituent.	Pharmacopeia, 1890	Pharmacopeia, 8th revision.
Acidum sulphuricum aromaticum.	H_2SO_4, by weight	About 18.5 per cent	About 20.0 per cent.
Aconitum.	Aconitin, by weight	Standard not fixed	At least 0.5 per cent.
Alcohol dilutum	Absolute alcohol, by weight	About 41.0 per cent	About 41.5 per cent.
Belladonnæ folia	Mydriatic alkaloids, by weight	Standard not fixed	At least 0.35 per cent.
Belladonnæ radix.	Mydriatic alkaloids, by weight	*Standard not fixed*	*At least* 0.5 per cent.
Caffeina citrata effervescens	Citrated caffein, by weight	2.0 gm. in 100 gm.	4.0 gm. in 100 gm.
Cinchona.	Alkaloids, by weight	At least 2.5 per cent. quinin	At least 4 per cent ether-soluble alkaloids.
Coca.	Ether-soluble alkaloids, by weight.	Standard not fixed	At least 0.5 per cent.
Colchici cormus	Colchicin, by weight	Standard not fixed	At least 0.35 per cent.
Colchici semen	Colchicin, by weight	Standard not fixed	At least 0.55 per cent.
Conium.	Conlin, by weight	Standard not fixed	At least 0.5 per cent.
Emplastrum belladonnæ	Mydriatic alkaloids, by weight	Standard not fixed	From 0.38 to 0.42 per cent.
Extractum balladonnæ	Mydriatic alkaloids, by weight	Standard not fixed	0.3 per cent.
Extractum colchici cormi	Colchicin, by weight	Standard not fixed	1.4 per cent.
Extractum hyoscyami	Mydriatic alkaloids, by weight	Standard not fixed	1.4 per cent.
Extractum nucis vomicæ	Strychnin, by weight	15.0 per cent. total alkaloids	5.00 per cent.
Extractum opii	Morphin (cryst.), by weight	18.0 per cent.	20.00 per cent.
Extractum physostigmatis	Ether-soluble alkaloids, by weight.	Standard not fixed	2.0 per cent.
Extractum stramonii	Mydriatic alkaloids, by weight	Standard not fixed	1.4 per cent.
Fluidextractum aconiti	Aconitin, by weight	Standard not fixed	0.4 gm. in 100 c.c.
Fluidextractum belladonnæ radicis	Mydriatic alkaloids, by weight	Standard not fixed	0.5 gm. in 100 c.c.
Fluidextractum cinchonæ	Anhydrous e.-s. alkaloids, by wt.	Standard not fixed	4.0 gm. in 100 c.c.
Fluidextractum cocæ	Ether-soluble alkaloids, by weight.	Standard not fixed	0.5 gm. in 100 c.c.
Fluidextractum colchici seminis	Colchicin, by weight	Standard not fixed	0.5 gm. in 100 c.c.
Fluidextractum conii	Conlin, by weight	Standard not fixed	0.45 gm. in 100 c.c.
Fluidextractum guaranæ	Alkaloids, by weight	Standard not fixed	3.5 gm. in 100 c.c.
Fluidextractum hydrastis	Hydrastin, by weight	Standard not fixed	2.0 gm. in 100 c.c.
Fluidextractum hyoscyami	Mydriatic alkaloids, by weight	Standard not fixed	*0.075 gm. in 100 c.c.*
Fluidextractum ipecacuanhæ	Alkaloids, by weight	Standard not fixed	1.75 gm. in 100 c.c.
Fluidextractum nucis vomicæ	Strychnin, by weight	1.5 gm. total alkaloids in 100 c.c.	1.0 gm. in 100 c.c.
Fluidextractum pilocarpi	Alkaloids, by weight	Standard not fixed	0.4 gm. in 100 c.c.
Fluidextractum stramonii	Mydriatic alkaloids, by weight	Standard not fixed	0.35 gm. in 100 c.c.
Guarana	Alkaloids, by weight	Standard not fixed	*At least 3.5 per cent.*
Hydrastis	Hydrastin, by weight	Standard not fixed	At least 2.5 per cent.
Hyoscyamus	Mydriatic alkaloids, by weight	Standard not fixed	At least 0.08 per cent.
Ipecacuanha	Alkaloids, by weight	Standard not fixed	At least 2.0 per cent.
Jalap	Alcohol-soluble resin, by weight	12 per cent.	At least 8.0 per cent.
	Ether-soluble resin, by weight	Not more than 1.2 per cent.	*Not more than 1.5 per cent.*
Liquor ferri chloridi	Anhydrous $FeCl_3$, by weight	37.8 per cent.	29.0 per cent.
Liquor ferri et ammonii acetatis.	Tincture of ferric chlorid	2 c.c. in 100 c.c.	4 c.c. in 100 c.c.
Liquor ferri tersulphatis	$Fe_2(SO_4)_3$, by weight	28.7 per cent.	36.0 per cent.
Lithii citras effervescens	Lithium citrate, by weight	About 17.0 per cent	*About 5.0 per cent.*
Nux vomica	Strychnin, by weight	*Standard not fixed*	*At least 1.25 per cent.*
Oleatum hydrargyri	Yellow mercuric oxid, by weight.	20.0 per cent.	25.0 per cent.
Oleum amygdalæ amaræ	Benzaldehyd, by weight	Standard not fixed	At least 85 per cent.
	Hydrocyanic acid, by weight	Standard not fixed	2 to 4 per cent.
Oleum cajuputi	Cineol, by volume	Standard not fixed	At least 55 per cent.
Oleum caryophylli	Eugenol, by volume	*Standard not fixed*	*At least 80 per cent.*
Oleum cinnamomi	Cinnamic aldehyd, by volume	Standard not fixed	At least 75 per cent.
Oleum eucalypti	Cineol, by volume	Standard not fixed	At least 50 per cent.
Oleum limonis	Citral, by weight	Standard not fixed	At least 4 per cent.
Oleum menthæ piperitæ	Menthyl acetate, by weight	Standard not fixed	At least 8 per cent.
	Total menthol, by weight	*Standard not fixed*	*At least 50 per cent.*
Oleum pimentæ	Eugenol, by volume	Standard not fixed	At least 65 per cent.
Oleum rosmarini	Bornyl acetate, by weight	Standard not fixed	At least 5 per cent.
	Total borneol, by weight	Standard not fixed	At least 15 per cent.
Oleum santali	Santalol, by weight	Standard not fixed	At least 90 per cent.
Oleum thymi	Phenols, by volume	*Standard not fixed*	*At least 20 per cent.*
Opii pulvis	Morphin (cryst.), by weight	13 to 15 per cent	12 to 12.5 per cent.
Opium deodoratum	Morphin (cryst.), by weight	13 to 15 per cent	12 to 12.5 per cent.
Physostigma	Ether-soluble alkaloids, by weight.	Standard not fixed	At least 0.15 per cent.
Pilocarpus	Alkaloids, by weight	Standard not fixed	At least 0.5 per cent.
Potassii citras effervescens	Potassium citrate, by weight.	*About 48.0 per cent*	*About 20.0 per cent.*
Stramonium	Mydriatic alkaloids, by weight	Standard not fixed	At least 0.35 per cent.
Suppositoria glycerini	Glycerin (half their former size)	6 gm. each	3 gm. each.
Syrupus ferri iodidi	Ferrous iodid, by weight	About 10 per cent.	About .5 per cent.
Tinctura aconiti	Aconitin, by weight	Standard not fixed	0.045 gm. in 100 c.c.
	Aconite	1 gm. in 2.85 c.c.	*1 gm. in 10.0 c.c.*
Tinctura belladonnæ foliorum	Mydriatic alkaloids, by weight	Standard not fixed	0.035 gm. in 100 c.c.
	Belladonna leaves	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
Tinctura benzoini composita	Benzoin	1 gm. in 8.33 c.c.	1 gm. in 10.0 c.c.
Tinctura cannabis Indicæ	Indian cannabis	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
Tinctura cantharidis	Cantharides	1 gm. in 20.0 c.c.	1 gm. in 10.0 c.c.
Tinctura capsici	Capsicum	1 gm. in 20.0 c.c.	1 gm. in 10.0 c.c.
Tinctura cardamomi	Cardamom	1 gm. in 10.0 c.c.	1 gm. in 5.0 c.c.
Tinctura cinnamomi	Saigon cinnamon	1 gm. in 10.0 c.c.	1 gm. in 5.0 c.c.
Tinctura colchici seminis	Colchicum seed	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
	Colchicin, by weight	Standard not fixed	0.05 gm. in 100 c.c.
Tinctura digitalis	Digitalis	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
Tinctura ferri chloridi	Anhydrous $FeCl_3$, by weight	13.6 per cent., by weight	13.28 per cent., by weight.
Tinctura gambir composita	Gambir	1 gm. in 10.0 c.c.	1 gm. in 20.0 c.c.
Tinctura gelsemii	Gelsemium	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
Tinctura hydrastis	Hydrastin, by weight	Standard not fixed	0.4 gm. in 100 c.c.
Tinctura hyoscyami	Mydriatic alkaloids, by weight	Standard not fixed	0.007 gm. in 100 c.c.
	Hyoscyamus	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
Tinctura kino	Kino	1 gm. in 10.0 c.c.	1 gm. in 20.0 c.c.
Tinctura lobeliæ	Lobelia	1 gm. in 5.0 c.c.	1 gm. in 10.0 c.c.
Tinctura nucis vomicæ	Strychnin, by weight	0.3 gm. *total alkaloids* in 100 c.c.	0.1 gm. strycvhnin in 100 c.c.
Tinctura opii	Morphin (cryst.), by weight	1.3 to 1.5 gm. in 100 c.c.	1.2 to 1.25 gm. in 100 c.c.
Tinctura opii deodorati	Morphin (cryst.), by weight	1.3 to 1.5 gm. in 100 c.c.	1.2 to 1.25 gm. in 100 c.c.
Tinctura physostigmatis	Physostigma	1 gm. in 6.67 c.c.	1 gm. in 10.0 c.c.
	Ether-soluble alkaloids, by weight.	Standard not fixed	0.014 gm. in 100 c.c.
Tinctura quassiæ	Quassia	1 gm. in 10.0 c.c.	1 gm. in 5.0 c.c.
Tinctura rhei	Rhubarb	1 gm. in 10.0 c.c.	1 gm. in 5.0 c.c.
Tinctura sanguinariæ	Sanguinaria	1 gm. in 6.67 c.c	1 gm. in 10.0 c.c.
Tinctura scillæ	Squill	1 gm. in 6.67 c.c	1 gm. in 10.0 c.c.
Tinctura stramonii	Stramonium	1 gm. in 6.67 c.c	1 gm. in 10.0 c.c.
	Mydriatic alkaloids, by weight	Standard not fixed	0.03 gm. in 100 c.c.
Tinctura strophanthi	Strophanthus	1 gm. in 20.0 c.c.	1 gm. in 10.0 c.c.
Tinctura tolutana	Balsam of tolu	1 gm. in 10.0 c.c.	1 gm. in 5.0 c.c.
Tinctura veratri	Veratrum	1 gm. in 2.5 c.c.	1 gm. in 10.0 c.c
Trochisci cubebæ	Oleoresin of cubeb, by weight	0.25 gm. in each	0.125 gm. in each.
Unguentum chrysarobini	Chrysarobin, by weight	About 5.0 per cent	About 6.0 per cent.
Unguentum phenolis	Phenol, by weight	About 5.0 per cent	About 3.0 per cent.
Unguentum sulphuris	Washed sulphur, by weight	About 30.0 per cent	About 15.0 per cent.

son, China would be a magnificent opening for them. It would also be a great benefit to China, for are not patent medicines valuable remedies, and is it not cruel to deprive any people of them? By all means, let the patent medicine men work the Chinese for a while, if that long-suffering people will stand for it.

An Early Patent Medicine Fraud.

According to a correspondent of the New York *Evening Post*, probably the earliest instance of drastic "treatment" of the patent-medicine fraud in this country is recorded in "The New England Chronology," Part II, 2 (1,754), of the Rev. T. Prince (Arbor's English Garner, ii, 577-578):

"March 4 (1631). First Court of Assistants this year, at Boston. Present, Governor, Deputy Governor, Sir R. Saltonstall, Master Ludlow, Captain Endicot, Masters Pynchon, Novell, Sharp, Coddington, Bradstreet.

"Ordered. . . . A man fined £5, for taking upon him to cure a scurvy, by a 'Water' of no value; which he sold at a very dear rate; to be imprisoned till he pay his fine, or give security for it; or else be whipt. And shall be liable to any man's action, of whom he has received money for the said 'Water.'"—*American Medicine*, Nov. 18, 1905.

Will Help Honest Advertising.

Those who are a bit nervous over the exposure of the patent-medicine industry by popular magazines should remember that the campaign is directed chiefly against mendacious patent-medicine advertising. Surely no fault can be found with a crusade against lying advertisements. If it were possible to eliminate falsehood from all advertising it would be the best thing that ever happened to the honest advertiser. To-day the man who sticks to the plain truth in his advertisements suffers from the monumental prevarication of less conscientious advertisers who have deceived the public so much that it liberally discounts the utterances of all advertisers except in those isolated cases where experience has shown that one may be believed. Good honest advertising will sell a good honest medicine, and if it doesn't the fault is not with the advertising.

The above is from the *New Idea*, the house organ of Frederick Stearns & Co. What is said here in regard to "patent medicines" applies exactly to proprietaries advertised to physicians. It is the lying, the absurdly extravagant claims, the false statements regarding both the composition and the therapeutic action of the articles, that has brought all proprietaries into disrepute among many physicians. Of course, if the whole truth were written about many proprietaries, it would spell humbug, but there are plenty of valuable proprietaries which would win favor if the straight honest truth were told about them.

Practical Work Outlined by Chicago Medical Society.

At the regular monthly meeting, held December 12, the Council of the Chicago Medical Society unanimously adopted the following resolutions:

1. That every branch of the society be requested to set aside an evening for the discussion of this question and particularly to encourage the members to report data in regard to cases observed which were injured or killed by the use of patent medicines.
2. That the secretaries of the branch societies be requested to send this material to the Public Relations Committee.
3. That the council appoint a committee to prepare articles on this subject for the lay press; this committee also to prepare and supply the lay press with other matter on this same subject for publication.
4. That THE JOURNAL of the American Medical Association be requested to prepare reprints of the articles on proprietary medicines and of the articles in *Collier's Weekly*, and that the society should set aside sufficient funds to furnish each doctor in the county with a copy of these reprints.
5. To have run in the *Bulletin* a request for the data of cases observed by the members of the society, who have been or may be injured by the use of patent medicines.
6. That a committee be appointed to see if the *Daily News* will accept a lecture on the patent medicine question to be inserted in their lecture column.
7. To communicate with the president of the state society in regard to above suggestions, and such others as may be made by the council, and request him to communicate with the various county societies and request them to encourage the same work.

Southwestern Branch Indorses Movement.

On account of the numerous and rapidly increasing number of worthless and harmful preparations that are being exploited among the physicians of the land, be it

Resolved, That the Southwestern Branch of the Chicago Medical Society expresses its hearty approval of the action of the American Medical Association in establishing a Council on Pharmacy and Chemistry to investigate non-official drugs and medicinal preparations. It also approves the action of THE JOURNAL of the American Medical Association in its campaign of educating the medical profession concerning the evils of nostrums and urges it to continue in the good work. It also heartily commends the action of *Collier's Weekly* and *Ladies' Home Journal* in exposing the evils of patent medicines, and be it also.

Resolved, That each member of this society be requested to write to the editors of these publications commending the action they have taken in the matter, and also that a copy of these resolutions be spread on the minutes of the society and that copies be forwarded to the secretary of the Chicago Medical Society, editor of THE JOURNAL of the American Medical Association, *Collier's Weekly* and *Ladies' Home Journal*. C. HUBART LOVEWELL, Secretary.

Resolutions Indorsing the Fight Against Nostrums.

At a recent meeting, the Lackawanna County (Pa.) Medical Society passed resolutions commending the work of *Collier's Weekly* and of the *Ladies' Home Journal* in their campaign against "patent medicines." At its December meeting, the Shiawasse County (Mich.) Medical Society adopted resolutions indorsing the action of THE JOURNAL A. M. A., *Collier's Weekly*, and the *Ladies' Home Journal* in exposing the methods of the Proprietary Association.

As Collier's Sees It.

BEWARE
OF
ACETANILID

The following well-known "remedies," both "ethical" and "patent," depend for their results upon the heart-depressing action of Acetanilid:

Orangeine
Bromo-Seltzer
Royal Pain Powders
Miniature Headache Powders
Megrimine
Anti-Headache
Dr. Davis's Headache Powders
Antikamnia
Ammonol
Salacetin
Phenalgin
Cephalgin

and practically all of the drug-store-vended "headache cures" and "anti-pain" remedies.

Take no nostrum of this class without a doctor's prescription, unless you are sure it contains no acetanilid. Make the druggist tell you. He is responsible. A suit for damages has recently been won against a New York drug store for illness consequent upon the sale of a "guaranteed harmless" headache tablet containing three grains of acetanilid.

[The above is from *Collier's Weekly*. It is certainly unkind to mix such ethical and well-established compounds as antikamnia, salacetin, phenalgin and ammonol with common every-day "patent medicines," as is done in this instance!]

New Chemical Remedies in Switzerland.

The Swiss Association of Pharmacists has recently passed, at its general meeting, what seems to us a timely and beneficial resolution. It recommends that each manufacturer be compelled to publish on the label of each pharmaceutic product the [illegible] st, its chemical name, as well as its com- [illegible] second, its reactions (of identity), its [illegible] boiling point, and its solubility in ordinary solvents; third, its dosage. There are already so many comparatively new chemical remedies and they are being added to so frequently and constantly that pharmacists can not be posted as to their physical characteristics and their properties, hence they can not, without the information above mentioned, exercise the proper control as to their purity or their safe administration.—Editorial in *New Orleans Medical and Surgical Journal.*

Not Under the Red Clause.

We have before urged that newspapers, as a rule, even to the extent of self-sacrifice, would come out on the side of right if the facts were placed before the editors in a way to show them what is right. It has been surprising to those who have watched the trend of affairs since the publication of *Collier's* article on the "Patent Medicine Conspiracy Against the Freedom of the Press" to note that the Press Committee of the Proprietary Association has not been able to control all of the newspapers. On the other hand, a large number have come out boldly and have sided with the public in this propaganda against frauds in "patent medicines." Every day fresh evidence of this is coming to our attention. We know it to be a fact, also, that many newspapers that have not come out openly on either side have refused to use matter supplied them by the Press Committee of the Proprietary Association. The following are samples of editorial comments in the newspapers:

The *Lincoln Trade Review*, December 2, says: "There is no graft in operation to-day that reaches so deeply into the pocketbooks of individuals and gives absolutely so little in return as the sale of numerous 'patent medicines' which prove, on examination, to be unmitigated frauds of the first water. One of the regrettable things in this connection is the way they are advertised and the part that newspapers play in duping the public by publishing the remarkable statements of cures that these frauds are alleged to make."

The *Seattle* (Wash.) *Star* makes the following manly announcement:

> "Eleven different patent medicines, which have been regularly advertised in the columns of the *Seattle Star*, will no longer be accorded space in this newspaper. . . . .
>
> All advertising arrangements made by this paper are subject to editorial control. The editor can *determine what matter offered by* advertisers is fit to print and what is not fit to print.
>
> The *Star's* editor has determined that objectionable matter lies *in most* patent medicine ads. and that they are therefore subject to refusal.
>
> The *Star* desires to be consistent in its crusade against patent medicines as a class. It does not seem right for the paper to accept profits from advertisements of articles which it denounces editorially, and which it believes should not be sold to the people.
>
> The fact that there is considerable pecuniary loss involved as a result of the elimination of these ads. can not be considered for a *moment*.

This is certainly clear cut, and the editor has taken a firm stand. He further says that the *Star* does not claim to be able to protect the people against all sorts of fakes, but he considers it his simple duty to take the stand here outlined because the line between right and wrong appears to him so clearly drawn.

Correspondence

The Removal of Liquor from the Army Canteen.

Pueblo, Colo., Dec. 14, 1905.

To the Editor:—In a recent issue of the *Medical Record*, the editor takes up the question of the army canteen. The argument advanced is the same old story. The editor of the *Record*, as a scientific man, should be more exact in some of his statements. Congress did not pass an act closing the canteens; the act prevented only the sale of liquor in military reservations, etc. The store department, the post exchange, the reading room, the recreation room, remain the same.

I have seen something of the army life in the Orient, and I wish to say, as a physician and a citizen, that every boy in the army is infinitely better off without the beer halls than with them. It is true, some men will go to outside saloons for their drinks, but they will not go so often and they will not drink as much when they have to go from one to three miles as if they could get it in the camp. Then, too, it helps to save the enlisted man who has not begun to drink. It gives him a much better chance to let it alone when there is none to be found in the army canteen.

There are other causes for desertion, and many of them, apart from those given by the *Record*.

The following statement is made by Gen. Noel Gaines, an old army officer:

> "The truth is, the inability of the soldiers easily to obtain liquor is *not* the cause of the increased desertions and poor discipline and ill-content of the men; but rather the low standard of morals of men and officers, growing out of drinking intoxicating liquors in any form, whereby their *morality*, sense of honor and patriotism are gradually destroyed; coupled with the *tyrannical treatment* of the enlisted men (all of whom are Americans and will not tolerate *tyranny*) *by almost the* whole of the younger officers of the army, *and a* great many of the older ones, are real *causes*. I *testify* to this from personal observation."

Lieut. Gen. Nelson A. Miles, just two years ago, after almost three years' trial of the prohibition of liquor in army reservations, had this to say:

> "*For a long* times the army has been without what is known as the liquor *feature of* the canteen. The army posts are much better off without it, I find. That element having once been discarded it would be an injury and a step backward to reintroduce it.
>
> "The *canteen, so-called*, is a recreation room or building established or set apart at nearly all military posts. It is for the comfort of the enlisted men.
>
> "It *includes the recreation* room which gives the men opportunity for social intercourse, the playing of games and the *reading of magazines and books*. *It* also affords them light refreshment of various *kinds which they may desire* in addition to the good, wholesome food furnished by the government.
>
> "There are certain men in the service, as in every community, who will have *liquor if it is possible* to obtain it. Of course these are not the best men in the ranks.
>
> "But now that liquor has been removed from the military reservations *those not addicted to the use of liquor* are free from its demoralizing influences. The temptation to use it is made very remote.
>
> "Besides, *the amusements rooms* where the men *who desire may* study or read or have orderly recreation are not disturbed by men wholly or partly under the influence of liquor. In other words, the canteen is made inviting to decent, *self-respecting men*.
>
> "I have visited many posts during the past year, and I know that the conditions are better now than ever before. This I say positively *from my own observation*.
>
> "At one large post in the West the present canteen is so well conducted and so well patronized that it has paid dividends of $1 a month to every man. This shows that the argument that the canteen can not be sustained without the liquor feature is wholly false.
>
> " 'Do you think, General, that there is less drunkenness among the soldiers than existed when the canteen had the liquor feature?'
>
> " 'I know there is less,' " was General Miles' emphatic reply.—*Boston Advertiser*, Dec. 12, 1903.

It is time for sensible men, and especially physicians, to give up the fallacy that soldiers must get drunk. I have seen army officers passing through hostile territory so drunk that a sudden attack could have ended in nothing but defeat. Boys who enlist in the army because they can get liquor are poor defenders of their country, and, if they leave the army because they can not get it, it is small loss.

Lord Kitchener, in the campaign of the Soudan, abolished liquor of all kinds, even from the officers' mess. Their liquid refreshments were confined to tea and oatmeal water. This was on no temperance grounds, but because he knew the powers of endurance could be maintained without liquor better than with it. His forced marches over burning sand and his victory of Omdurman proved his conclusions correct. Japan has recently shown the world the advantage of a sober army. A. S. Barker has this to say of excluding wines and beers from ship canteens:

> "The navy is to be congratulated that the department has remained firm in excluding wine and beer from the canteen of ships.
>
> "Railroad companies do not employ men who drink intoxicating liquor because of the increased danger of accidents and consequent claims for damages.
>
> "Manufacturing concerns are yearly becoming more strict in this regard. How much greater the necessity for absolute sobriety on a battleship? Tons of explosives are confined in the vessel, fires burn with intense heat in the furnaces, electricity is generated in currents of sufficient strength to run 1,000 lamps and move turrets weighing hundreds of tons, while within the ship closely housed over this dormant hell are more than 700 human beings.
>
> "The majority of enlisted men come from good homes and are temperate. Is it therefore not better to weed out the few intemperate and raise the standard still higher than to disgust many self-respecting men and lower the tone of the service?
>
> "A. S. Barker,
> "Rear Admiral, U. S. Navy.
> "Commander-in-Chief North Atlantic Fleet."

One of the inconsistencies, in which those who want to place the beer halls back in the army camps indulge, is this: They say: Drunkenness has increased; desertion has decreased. Yet, in the same article, they will go on to tell us that men are leaving the army because they can not get liquor. The fallacy is evident. Beer and cigarettes are not the rations of any great football team, and every physician knows that they are equally poor for fighting men.

Let some army officers try as hard to keep the boys from drinking, both by precept and example, as they do now to restore liquor to the army canteens, and we will hear less about the need of it. The result of no beer saloons in the navy is attracting to our navy a better class of men. On one ship alone, in the paymaster's safe, there is over $33,000 saved by the men on board. This does not occur on board beer-hall ships. According to the official report of the U. S. Navy, the health of the men is better and the death rate less. There are no medical reasons for returning to the old régime in either army or navy.

John Inglis.

The Burning of the Books.

South Haven, Mich., Dec. 18, 1905.

To the Editor:—I have just read the letter of Dr. B. Holmes in The Journal of Dec. 16 on the "Burning of Books," and I must enter a protest against such wholesale denunciation of all medical books older than the last edition. To my mind, the fathers in medicine, be they old or new, deserve not only our respect, but their teachings and their books are worthy of our serious thought and study. There is something more due them and ourselves than—

"As dutious sons we fondly wished
Our fathers were more wise."

Truth is not always most abundant in things ultra new. There is no greater danger of falling into error by going slow than by going too fast.

The same desire of the public which demands two editions of a daily paper, with extras between, seems to consume some medical men, and they court and receive the distinction of being on the crest of the wave of "the very latest." The public may applaud and flock to them, but it does not follow that their patients are cured or helped by them more than by the more conservative practitioner. There are fads and fancies in things medical, as well as in other lines of human activity. It is the mad desire for something new that drives men to follow after such strange gods as osteopathy, Eddyism, and their like.

The man in general practice can not and should not attempt to keep abreast with the man in the laboratory devoting himself to experimental and original research work.

Fifty thousand of the "60,000 physicians" spoken of by Dr. Holmes can not buy the last editions of all needed medical text-books, nor is it necessary, in my humble opinion, that they should do so in order to be up with the times in their work. Nor do they need to burn or even to discard all save the last editions.

It is often astonishing how little "revising" is required for an excuse for a "new edition." The changes more often consist of an increased number of "plates" rather than new or revised ideas.

Let not the physician be ashamed to have good standard medical books on his shelves, though part of them, at least, be not the very last revision.

The man who subscribes for and faithfully reads a few good current medical journals need not fear that his patients will suffer for lack of modern treatment, even if some of his text-books are two or even ten years old.

L. G. Rhodes, M.D.

Roentgen Rays in Dentistry.

Chicago, Dec. 18, 1905.

To the Editor:—In reference to the article with the above title by Dr. Kassabian in the issue of December 16, permit me to make a few remarks about the technic employed, which, I think, will be of value to every Roentgenologist. As to the material used, I find heavily coated celluloid paper the ideal material for such work. I cut pieces 2 x 3 cm., inclose them in oiled paper, and cover them with black paper, the smooth side of the cover corresponding with the emulsion side of the film.

I place the patient on a table and, according to the advice of Albers-Schonberg (*Die Roentgentechnik*, Hamberg, 1903), either let the patient adduct his chin as near as possible to his chest (upper jaw) or bend it as far as possible backward (lower jaw). By this position it is much easier to direct the rays as nearly perpendicular as possible to the film, and a distortion will never occur. The film is then inserted, held in place by an assistant or the patient himself, the point of pressure being, of course, as Dr. Kassabian says, on the particular tooth to be Roentgenographed. The results I have thus obtained are most satisfactory. This same method is used, also, in locating stones in the salivary ducts, the film being inserted over the tongue, the head held backward at right angle to the spinal column and the rays directed perpendicular to the floor of the mouth. I reserve the extra-oral Roentgenography of teeth for the third molar only, and then use a very small lead diaphragm, which helps me greatly in getting a perfect picture of the tooth.

Max Reichmann, M.D.

The Nomenclature of Proprietary Medicines.

New York, Dec. 11, 1905.

To the Editor:—Your issue of December 9 contains an article by Prof. C. S. N. Hallberg on the above subject, from which we quote the following:

> And yet, in the face of this undeniable awakening of medical men, a firm of chemists of the highest standing has recently devised the meaningless, empiric names for three articles of its manufacture: Duotonol tablets, quartonol tablets, sextonol tablets.
>
> "Tonol" stands for glycerophosphates, and the prefixes refer to one number of different kinds of glycerophosphates, salts of alkalies, contained in each tablet. Now these names have been devised on the assumption that physicians will appreciate them, owing to their brevity and euphony; on the other hand, it is evident that these names will not appeal to the thinking physicians, as they would under the pharmaceutical titles, with the name of the illustrious founder of the firm as the trademark.

We beg leave to state here the considerations which led us to the adoption of the names challenged by your distinguished contributor:

We were the original introducers of the glycerophosphates in this country and extensively advertised them among the medical profession during the past decade. But soon after these salts had met with a favorable reception they were also marketed by other firms. The latter were able to undersell us because they had had none of the enormous costs and risks connected with the introduction, and, besides, some of the competitive preparations had shortcomings in purity and stability.

After advertising these salts as "glycerophosphates-Schering" for eight years—as Prof. Hallberg advises—we were in self-protection forced to adopt the trademark "tonol." The physician, by using this short and easily-remembered name, was thereby enabled to assure the dispensing of Schering's glycerophosphates.

The name "duotonol" was given to the lime-soda combination, "quartonol" to the tablet containing four salts, and "sextonol" to the one of six salts. It would hardly have been possible to devise names less subject to confusion. If the combinations had been designated "No. 1," "No. 2" and "No. 3," many physicians would have been unable to recall, when prescribing, which of the three numbers represented the tablet desired. And "Schering's tablets of glycerophosphates of lime, sodium, iron, manganese, quinin and strychnin" (instead of sextonol) would have presented equally great mnemonic difficulties. But in addition we always state in our advertisements, our literature, and on the labels of the packages, the name of Schering in connection with the formulas.

We are confident that the tradenames will recommend themselves by their precision and convenience, and indeed, we already possess proof of this fact.

While we regretfully recognize the fact that there is a multiplicity of brands of proprietary medicines, the same is true of all pharmaceuticals; the druggist often has to keep in stock several brands of morphin, quinin, etc. In the case of proprietary preparations, however, the remedy is obvious, if the physician will specify the original product, whose manufacturer deserves the reward of his labors and who may be relied on to supply the product of highest quality. If the physician leaves the selection of the brand to the pharmacist, cheapness —not quality—will often determine whose product is selected, and the cheapest is most likely the poorest one.

Schering & Glatz.

Infant Consultations.

Philadelphia, Dec. 1, 1905.

To the Editor:—Reading your notice of the Congress of "Gouttes de Lait," I would like to call your attention to the fact that there has been started in Philadelphia within the last two months a little hospital under the name of The Christ's Hospital, whose work is the same as those European stations. The purpose of the clinics is to allow mothers to bring their babies to have their diet, hygiene and general care supervised by competent medical men. The question of milk supply is a vital one, and advice to the mothers on milk mixtures is very important. You note on p. 1747 that some of these stations do not survive; it requires an infinite patience to deal with some of the more ignorant mothers. Many of them have been brought up *in a mill, and have faint ideas about housekeeping.* They do not know how to make the best of their limited resources. The proportion of waste and needless expenditure among the poor is apt to be greater than among the *gens doré* of our social structure.

This work in Philadelphia is called by the name of child registration and, although just begun, seems to have a future. At other hours there are clinics for the treatment of diseases of children, but the hour of registration is strictly one for normal study. Valuable statistics of height, weight, nutrition, and general development will be obtained, and in the changes of childhood there is the chance to know better how adult processes become initiated. The address of the hospital is 3354 North Front street, where any correspondence with those interested will be welcome.

The institution has its finances guaranteed by the St. Ambrose P. E. Mission and the Providence M. E. Church, as well as by public-spirited individuals of the neighborhood. It seems a very relevant work for religious bodies to assist, and in the future it may be that more of this charity will find issue in their activities. T. H. Evans, M.D.

Marriages

Arthur K. Hammond, M.D., to Mrs. Keller, both of Fort Wayne, Ind.

Jaros F. Zivnuska, M.D., to Miss Flora A. Salentine, both of Milwaukee, Wis.

Ralph Butler, M.D., to Mrs. John E. Shaw, both of Philadelphia, December 18.

S. Baskin Sherard, M.D., Iva, S. C., to Miss Mattie Moson, at Baltimore, December 5.

John H. McCutchan, M.D., to Miss Maude Earle, both of Evansville, Ind., December 6.

Alexander S. Sim, M.D., to Miss Lorna Lucy Lyons, both of Brooklyn, N. Y., December 7.

Moses Eisenstaedt, M.D., to Miss Blanche Janet Benjamin, both of Chicago, December 18.

Merle Flenner, M.D., Hamilton, Ohio, to Miss Adrienne Nosler of Chicago, December 12.

Derostus E. Smith, M.D., to Miss May Milehan, both of Kansas City, Kan., December 6.

John L. Seay, M.D., Sumterville, Ala., to Miss Lizzie Clark of Pratt City, Ala., December 5.

Walter S. Wing, M.D., to Miss Laura Casper, both of Oconomowoc, Wis., November 29.

Livingston L. Shropshire, M.D., to Miss Agnes James, both of San Antonio, Texas, November 27.

Eugene G. Holden, M.D., Caldwell, Idaho, to Miss Ethel Kuppinger of Erie, Colo., December 6.

George Ingles Macleod, M.D., Ardmore, Pa., to Miss Madge Twiggs of Augusta, Ga., December 17.

George M. Shaw, M.D., Robinsonville, Miss., to Miss Lulu Rhea of Somerville, Tenn., December 6.

John J. Travis, M.D., Northport, Wash., to Miss Alice J. Bowes of Spokane, Wash., November 23.

Charles H. Zorger, M.D., Ivesdale, Ill., to Miss Anna Cecilia Sunderland of Urbana, Ill., November 28.

John Crayke Simpson, M.D., to Miss Louise Kauffmann, both of Washington, D. C., December 12.

J. Austin Thompson, M.D., to Mrs. Allie McCreedy, both of Letts, at Washington, Iowa, November 29.

Samuel H. Heavrin, M.D., Louisville, Ky., to Miss Stella Rothschild of Owensboro, Ky., December 6.

Samuel T. Glasford, M.D., to Miss Marie Clark, both of Danvers, Ill., at Peoria, Ill., November 29.

Arne A. Stemsrud, M.D., Dawson, Minn., to Miss Minnie Lindell of Grove City, Minn., November 29.

Harry G. Templeton, M.D., Plymouth, Pa., to Miss Anna Blanchard of Wilkesbarre, Pa., November 26.

Joseph Henry Delaney, M.D., Bozeman, Mont., to Miss Nina Howell White of Hobgood, N. C., December 19.

Ernest Ray Limbocker, M.D., New Virginia, Iowa, to Miss Gertrude Vera Salber of Clarinda, Iowa, November 30.

Albert F. Zimmermann, M.D., Santa Ynez, Cal., to Miss Virginia Claire Bradley of Los Angeles, Cal., November 29.

Eugene Byron Glenn, M.D., Asheville, N. C., to Miss Elizabeth Elliott Lumpkin of Columbia, S. C., December 21.

Albert Livingston Stavely, M.D., Washington, D. C., to Miss Willie Browning Haralson of Montgomery, Ala., December 6.

Deaths

William S. Forbes, M.D.

William S. Forbes, M.D. Jefferson Medical College, Philadelphia, 1852, died suddenly at his home in Philadelphia, from angina pectoris, December 17, aged 74. Dr. Forbes served for one year as assistant surgeon in the English service during the Crimean War. He also served as resident physician in the Pennsylvania Hospital, and later taught private classes in surgery and anatomy in the College of Anatomy, Philadelphia. He was a member of the Academy of Natural Sciences, College of Physicians of Philadelphia, Philadelphia County Medical Society, Medical Society of the State of Pennsylvania, and American Surgical Association. He served throughout the Civil War as surgeon in the United States Volunteers, was appointed medical director of the Thirteenth Army Corps and served under General Grant during the siege of Vicksburg. He was surgeon to the Episcopal Hospital for 25 years, and also surgeon to the Jefferson Medical College Hospital. In 1879 he was made demonstrator of anatomy in Jefferson Medical College, and in 1886, he was appointed professor of anatomy, and held that chair until his death. Perhaps the crowning act of Dr. Forbes' life and the deed of which he was most proud was his authorship of the *original Anatomy Act of Pennsylvania* in 1863, and its amendment in 1883. This act has placed the procuring of subjects for dissection in the various medical schools in Pennsylvania on a legal basis, and has been of the greatest aid in the advancement of medical science. This act is the prototype and has been copied by all of the states in the union. He was the inventor of a new lithotrite and method of obtaining and measuring the strength of these instruments and the measured crushing resistance of vesical calculi. *blood from the arteries to the veins,* "Per Perositates," *and* an article on the diaphragm as a protector of the heart, and its influence in changing the current of blood, at birth, from the ductus arteriosus, to the lungs, by compressing the ductus arteriosus until the lumen of the duct is obliterated. He devised and was the first to perform the operation of liberating the ring finger of musicians by dividing the accessory tendons of the common extensor of the digits. At *the 1905 com*mencement exercises of Jefferson Medical College a life-size portrait of Dr. Forbes was presented to the board of trustees of the college by the students and alumni. At the same time the Alumni Association of the University of Pennsylvania presented him with a silver loving-cup in recognition of his services in securing the establishment of the present state anatomic law. Dr. Forbes was an eloquent and sincere teacher and loved by all students who came in contact with him. He was known by the students in Jefferson as "the grand old man."

George Warner Miltenberger, M.D. University of Maryland School of Medicine, Baltimore, 1840; demonstrator of *anatomy in* that institution from 1840 to 1847; lecturer on pathology from 1847 to 1852; professor of materia medica and pathologic anatomy from 1852 to 1858; professor of obstetrics from 1858 to 1891; dean of the faculty from 1855 to 1869; emeritus *pro*fessor of obstetrics and honorary president of the faculty of his alma mater since 1891; president of the Baltimore Obstetrical and Gynecological Society in 1885-1886, and of the Medical and Chirurgical Faculty of Maryland 1886-1887; consulting physician to Johns Hopkins Hospital; one of the oldest and most highly esteemed practitioners of Baltimore, died at his home in that city from senile debility, December 11, aged 86. In 1896 his portrait was presented to the Medical and Chirurgical Faculty of Maryland. He led a strenuous professional life, and gave to the University of Maryland the best of his life and service.

George S. Hyde, M.D. Harvard University Medical School, Boston, 1856; a member of the American Medical Association, Massachusetts Medical Society, Suffolk District Society and Harvard Medical Alumni Association; interne at the Massachusetts General Hospital; a practitioner of Boston for half a century; for 40 years physician to St. Vincent's Orphan Asylum; prominent in all charitable work, died at his home in Boston, December 11, aged 74.

John F. Failing, M.D. University of Buffalo (N. Y.) Medical Department, 1868; a veteran of the Civil War, in which he served as hospital steward of the One Hundred and Twenty-eighth New York Volunteer Infantry, and formerly a practitioner of Grand Rapids, Mich., died at his home in Los Angeles, Cal., December 6, from tuberculosis, after an illness of ten years, aged 64.

Thomas Benjamin Hunt, M.D. University of Louisville Medical Department, 1864; for nine years a member of the board of education of Warsaw, Ill.; once a member of the State Board of Health; surgeon of the Fifty-fourth Kentucky Mounted Volunteer Infantry, died at his home in Warsaw, November 17, from heart disease, after a short illness, aged 74.

Benjamin Blackford, M.D. Jefferson Medical College, Philadelphia. 1855; surgeon in the Confederate service during the Civil War; in charge of hospitals at Front Royal and Liberty, Va.; an alienist of ability; for 16 years superintendent of the Western State Hospital, Staunton, Va., died at his residence in that institution, December 13, from pneumonia, aged 71.

Evelyn Lyman Bissell, M.D. Medical Institution of Yale College, New Haven, Conn., 1860; surgeon in the Army during the Civil War; a member of the staff of Governor Waller; president of the New Haven board of health, died suddenly at his home in New Haven, from cerebral hemorrhage, December 9, aged 69.

William Henry Harrell, M.D. Medical College of Virginia, Richmond, 1885; for 16 years physician and superintendent of health of Martin County, N. C., and for several years a member of the State Board of Health, died at his home in Williamston, November 27, from pneumonia, after an illness of six days.

Edwin Reynolds, M.D. College of Physicians and Surgeons in the City of New York, 1877; member of the New York State Medical Association, New York State Medical Society, and Medicolegal Society; physician to the Brooklyn Home for Consumptives, died at his home in Brooklyn, December 15, aged 59.

Cassius M. Colegrove, M.D. College of Physicians and Surgeons, Baltimore, 1883; twice president of the village of Canastota, N. Y., died December 9 from injuries received the evening before by being caught between a train from which he had alighted and a freight train, at Canastota, aged 43.

Theodore Deecke, M.D. University of Berlin, Germany, 1857; for 17 years pathologist at the Utica (N. Y.) State Hospital; well known as a pathologist, chemist and medical expert, died at his home in Utica, December 15, after an illness of three years, aged 69.

William P. Caffey, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1900, local surgeon of the Denver & Rio Grande Railroad at Castle Gate, Utah, died suddenly from heart disease at his home in that place, December 9.

Lewis Gelston, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1905, a member of the medical staff of the Calumet and Hecla Mining Company, Calumet, died in that city from scarlet fever, December 13, aged 21.

Morton Grinnell, M.D. Bellevue Hospital Medical College, New York City, 1881, formerly of New York City, died at his home, Beaver Brook Farm, Milford, Conn., December 10, from pneumonia, after a short illness, aged 50.

Peter Henry Reiche, M.D. University of Maryland School of Medicine, Baltimore, 1869, of Baltimore, was struck by a street car and died, December 9, an hour after the accident, at the City Hospital, Baltimore, aged 68.

William P. Fenlason, M.D. State Certificate (Tennessee), 1899, died at his home in Chattanooga, December 1, from peritonitis due to injuries inflicted by William Waller, for causes unknown, November 18, aged 66.

James Fullerton, M.D. Years of Practice, Illinois, 1878, one of the oldest practitioners of Mason County, Ill., died at his home in Bath, where he had practiced for 52 years, December 6, from senile debility, aged 77.

Thomas Grant, M.D. Manitoba Medical College, Winnipeg, 1896, a member of the American Medical Association, died at his home in North Bend, Neb., December 4, after an illness of more than a year, aged 37.

John J. Dearborn, M.D. University of Vermont Medical Department, Burlington, 1873, died at his home in Salisbury, N. H., December 6, after an invalidism of several years, aged 55.

Nicodemus Theodore Tanski, M.D. Cincinnati, 1882, of Cincinnati, died at the Seton Hospital in that city, December 17, from burns sustained during an attack of syncope, aged 57.

William H. Dowell, M.D. Cincinnati, 1895, died at his home in Green Camp, Ohio, November 30, from pneumonia complicating typhoid fever, after an illness of three weeks, aged 37.

Thomas W. Hunt, M.D. Jefferson Medical College, Philadelphia, 1894, formerly of Lanesboro, Minn., and Bridgeport, Okla., died at his home in Haskell, I. T., September 17, aged 40.

A. Stanley Dolan, M.D. Michigan, 1882, formerly assistant superintendent of the Southern California Hospital for the Insane, died suddenly in his room at Riverside, Cal.

James L. Curl, M.D. Barnes Medical College, St. Louis, 1897, died at his home in St. Louis, November 24, from pneumonia, after an illness of less than three days, aged 29.

Perley I. Aiken, M.D. Jefferson Medical Colege, Philadelphia, 1867, died recently at his home in Honolulu, H. I., after a long and painful illness, and was buried October 28.

Ellwood S. Gloninger, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1887, died at his home in Philadelphia, December 14, aged 50.

L. B. Bond, M.D. Atlanta, 1895; local surgeon to the Baltimore & Ohio Railroad, died at his home in Mt. Clare, W. Va., from typhoid fever, December 6, aged 34.

Herman Joseph Huyett, M.D. Jefferson Medical College, Philadelphia, 1885, died at his home in Rock Island, Ill., from nephritis, December 10, aged 43.

William H. Kroh, M.D. University of Maryland School of Medicine, Baltimore, 1886, died at his home in Los Angeles, Cal., December 11, aged 46.

Charles E. Eskridge, M.D. Louisville (Ky.) Medical College, 1886, died at his home in Winnsboro, Texas, November 29, from heart disease.

Walter L. Allen, M.D. Atlanta, 1900, of Chalk Mountain, Texas, was stabbed during an altercation, July 27, and died four days later.

William O. Collins, M.D. Kentucky School of Medicine, Louisville, 1854, died at his home in Pimento, Ind., November 28, from nephritis.

Isaac D. Newman, M.D. Cincinnati, Ohio, 1885, died at his home in Oakland, Md., December 12, aged 67.

Deaths Abroad.

Sir John Burdon-Sanderson, Bart., M.D. Edinburgh, 1851; F.R.C.P., London, 1863; M.R.C.P., 1855; D.C.L.; D.Sc.; LL.D.; F.R.S.; Honorary Fellow Magdalen College; president Pathological Society; honorary member of Clinical Society; fellow of the Medico-Chirurgical Society; corresponding member of the Academy of Science of Berlin, the Institute of France, Academy of Medicine of Belgium and Royal Scientific Society of Denmark; late regius professor of medicine, University of Oxford; Jordell professor of physiology, University College, London; physician to the Consumptives' Hospital, Brompton; assistant physician and lecturer, Middlesex Hospital; president of the British Medical Association in 1893; bearer of one of the most illustrious names in medicine, died at his home in Oxford, November 23, from broncho-pneumonia, after a pro-

John Burdon-Sanderson, M.D.

longed illness, aged 76. In 1870 Dr. Sanderson resigned his hospital appointments to devote himself to physiology and experimental pathology. His first important contribution was on the best means of resuscitating the apparently drowned. Other investigations were on asphyxia, the pathogenic properties of the stools of cholera patients, the artificial tuberculosis, and the intimate pathology of contagion.

E. Ziegler, M.D., professor of pathology and pathologic anatomy at Freiburg, died November 30, aged 56. He was the publisher and editor of the *Beiträge zur path. Anatomie und zur allgem. Pathologie*, and of the allied *Centralblatt*, and he has contributed a large number of important works to science. The article on "Inflammation" in the "Twentieth Century Practice of Medicine," 1899, was from his pen. He was born at Berne and has served as privat docent or professor at Würzburg, Zurich, Tübingen and Freiburg, removing to the latter place in 1889.

L. Brühl, M.D., one of the first and most prominent members of the German Imperial Health Office, died at Berlin, November 35, aged 70.

R. von Leuthold, M.D., surgeon general of the German army and body physician to the emperor, died at Berlin, December 4, aged 73.

Book Notice

THE PRACTITIONERS' VISITING LIST (Heretofore known as the Medical News Visiting List) for 1906. Lea Brothers & Co., Philadelphia, 1905.

MEDICAL RECORD VISITING LIST or Physicians' Diary for 1906. New Revised Edition. New York: William Wood & Co.

These visiting lists are pocket-sized, wallet-shaped books, bound in flexible leather, with flap, pencil, pocket, calendar, valuable tables and data, and classified blanks for recording various details of practice, such as charges, calls, engagements, addresses, cash account, etc. They are made for various numbers of patients, monthly or weekly, dated or undated, etc. They are excellently arranged for the physician's convenience.

Queries and Minor Notes

SYPHILIS AND REPAIR FRACTURES.

——Dec. 7, 1905.

To the Editor:—I have a case of compound fracture of the tibia near the juncture of the lower and middle thirds. The fibula is also broken. The bones were much splintered and a small piece had to be removed. The patient, a man, had syphilis seven years ago. He took antisyphilitic treatment for a year and a half. He is married, and his wife became infected and had one abortion. She is now troubled with a *syphiloderm*. I have treated both since June with potassium iodid and protoiodid of mercury, ¼ gr. What is the probable effect of syphilis on the uniting of a fracture. What would be the best treatment in this case? X. Y. Z.

ANSWER.—It is generally conceded that syphilis does not interfere with repair of fractured bones. Syphilis, particularly in the large cities, is an exceedingly common disease, yet in the large hospitals it is very rare indeed to find that syphilis has played any part in the cause of fracture, and it is very doubtful if, in itself, it ever interferes with union. In the treatment of the fracture in the above case, therefore, the indications should be met without regard to the syphilitic history. On the other hand, if syphilitic lesions be present they should receive their proper treatment without regard to the presence of the fracture.

PHYSICIANS' CARDS.

Another physician's card comes to our table to add to the collection. The front side contains the following (names being changed):

O. C. TONLAY, A.M., M.D.,
Eclectic Physician.

SPECIALTIES: Skin Diseases.
Nervous Diseases.
Urinary Disorders.
Female Troubles.

WEEKLY BLOCK,
LASINA, NEW OHIO.
TELEPHONE, 187.
German and English spoken.
(SEE OVER.)

The reverse side of the card reads as follows:

Dr. TONLAY has had a practical experience of 33 years as a Physician and Specialist, both in the Allopathic or regular; and in the Eclectic or Botanic Schools of medicine. The Doctor prefers and generally gives the extracts of roots, herbs, barks and flowers of the earth (that is the Eclectic *practice*), *and such* DOES NOT INJURE the most delicate stomach or system. Children do not mind to take my medicines. Dr. Tonlay has taken a special course in study of ALL CHRONIC DISEASES, and particularly upon NERVOUS DISEASES, SKIN DISEASES, AND DISEASES OF KIDNEYS, BLADDER, AND FEMALE TROUBLES. The Doctor *also cures* Rupture, Piles and Goiter by the Hypodermic method without surgery. Having been in the Special practice in New Orleans, La., and St. Louis, Mo., and made Chronic Diseases a Special Study, he claims Superior Skill in the treatment of such troubles.

N. B.—Dr. Tonlay prepares and furnishes his own medicines at his office.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending December 16:

Koerper, C. E., asst.-surgeon, relieved from further temporary duty at the post of Washington Barracks, D. C.

Hanner, John W., asst.-surgeon, granted three months' leave of absence, to take effect on his being relieved from duty in the Philippines Division, with permission to return to the United States via Europe.

Hutton, Paul C., asst.-surgeon, ordered to report in person, December 29, to Lieut.-Col. Geo. H. Torney, deputy surgeon general, president of examining board, at the Army General Hospital, Presidio of San Francisco, Cal., for examination to determine his fitness for advancement.

Ruffner, E. L., asst.-surgeon, advanced to rank of captain from this date (December 15).

Cass, Wm. E., contract surgeon, ordered from Vancouver Barracks, Washington, to Fort Stevens, Ore., for temporary duty.

Adair, Geo. F., contract surgeon, ordered from Fort Wadsworth, N. Y., to Fort Jay, N. Y., for temporary duty.

Branch, Frederick D., contract surgeon, returned from Fort Jay, N. Y., to his proper station, Fort Wood, N. Y.

Slater, Ernest F., contract surgeon, returned to duty at Fort Hancock, N. J., from sick leave of absence.

Chase, Alpha M., contract surgeon, returned to Fort Reno, Okla., from leave of absence.

Marvin, Marion F., contract surgeon, left Fort Robinson, Neb., on leave of absence.

Dickenson, Clarence F., contract surgeon, returned to Fort Logan, Colo., from leave of absence.

Waddell, Ralph W., dental surgeon, left Fort Crook, Neb., on leave of absence.

Navy Changes.

There are no changes in the Medical Corps, U. S. Navy, for the week ending December 16.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending December 13:

Kalloch, P. C., surgeon, *detailed to represent the service* at the meeting of the Maine State Board of Health, Augusta, Me., December 7.

Wasdin, E., surgeon, granted leave of absence for one month from December 15.

Carrington, P. M., surgeon, granted leave of absence for seven days from December 7, under paragraph 189 of the regulations. Granted extension seven days leave of absence from December 14.

Wickes, H. W., P. A. surgeon, granted leave of absence for one month from December 20.

Greene, J. R., P. A. surgeon, granted leave of absence for one month from *December 18*.

Kerr, J. W., P. A. surgeon, relieved from duty at St. John, N. B., and directed to report at Bureau, Washington, D. C.

Corput, G. M., P. A. surgeon, relieved from special temporary duty at New Orleans, La., and directed to rejoin station at New Orleans, La.

McClintic, T. B., P. A. surgeon, granted leave of absence for twenty days from December 13.

Berry, T. D., P. A. surgeon, relieved from duty at New York, N. Y., and from special temporary duty at New Orleans. Authorized to resume leave status.

Long, J. D., P. A. surgeon, granted seven days leave of absence from November 15, under paragraph 191 of the regulations.

Bahrenburg, L. P. H., asst.-surgeon, granted leave of absence for three days from December 11.

Boggess, J. S., asst.-surgeon, granted leave of absence for two days from December 10.

Ebert, H. G., asst.-surgeon, relieved from duty at Fort Stanton, N. M., and on expiration of present leave of absence *directed to* proceed to Seattle, Wash., for exclusive duty in connection with the examination of aliens.

Salmon, T. W., asst.-surgeon, proceed from Ellis Island, N. Y., to Buffalo, N. Y., *for* special temporary duty.

Spratt, R. D., asst.-surgeon, granted seven days' leave of absence from December 6, under paragraph 191 of the regulations.

Frost, W. H., asst.-surgeon, granted two days' leave of absence from November 29, under paragraph 191 of the regulations.

Patterson, A., acting-asst. surgeon, granted leave of absence *for* one month from October 8.

Quigley, F. Leo, acting-asst. surgeon, granted leave of absence *for* seven days from December 9, under paragraph 210 of the regulations.

Richardson, S. W., pharmacist, relieved from duty at Wilmington, N. C., and from special temporary duty *at* New Orleans, La., and *directed* to report to the medical officer in command at New Orleans, La., for duty and assignment to quarters.

McKay, M., pharmacist, *relieved from* duty at Cincinnati, Ohio, and directed to report at Bureau, Washington, D. C., for duty, relieving pharmacist E. M. Holt.

Allen, G. C., pharmacist, relieved from duty at New Orleans, La., and directed to proceed to Fort Townsend. Wash., reporting to the medical officer in command for duty and assignment to quarters.

Allen, G. C., pharmacist, granted leave of absence for two days.

Ryder, L. W., pharmacist, granted leave of absence for fourteen days from December 11.

Troxler, R. F., pharmacist, relieved from duty at Port Townsend, Wash., and directed to proceed to Chicago, Ill., reporting to the medical officer in command for duty and assignment to quarters.

Holt, E. M., pharmacist, relieved from duty in bureau, and directed to proceed to Wilmington, N. C., reporting to the medical officer in command for duty and assignment to quarters.

Neves, George, pharmacist, granted leave of absence for eleven days from December 20.

BOARD CONVENED.

Board convened to meet at Portland, Me., Dec. 11, 1905, for physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon P. C. Kalloch, chairman; Acting Asst.-Surgeon A. F. Stuart, recorder.

CASUALTY.

Surgeon C. T. Peckham died Dec. 9, 1905, at Buffalo, N. Y.

REMOVAL.

Pharmacist H. E. Davis, removed from the service Dec. 13, 1905, effective Nov. 10, 1905.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon general, Public Health and Marine-Hospital Service during the week ended December 9:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 11-Nov. 25, 8 cases.
District of Columbia: Nov. 25-Dec. 2, 1 death.
Florida: Jacksonville, Nov. 25-Dec. 2, 1 case.
Kentucky: Covington, Nov. 25-Dec. 2, 9 cases.
Louisiana: New Orleans, Nov. 25-Dec. 2, 1 case.
Maryland: Baltimore, Nov. 25-Dec. 2, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila: Oct. 7-14, 2 cases.

SMALLPOX—FOREIGN.

Canada: Toronto, Nov. 18-25, 3 cases.
Chile: Iquique, Oct. 28-Nov. 4, 16 deaths.
China: Hongkong, Oct. 7-14, 1 case.
France: Paris, Nov. 4-11, 14 cases, 2 deaths.
Gibraltar: Nov. 12-19, 5 cases.
Great Britain: Leeds, Nov. 11-18, 2 cases.
Madras: Oct. 21-27, 2 cases.
Mexico: City of Mexico, Nov. 4-18, 6 cases, 3 deaths.
Russia: Moscow, Oct. 28-Nov. 4, 6 deaths; St. Petersburg, *Oct.* 21, Nov. 4, 8 cases, 3 deaths.
Turkey: Constantinople, Oct. 29-Nov. 19, 8 deaths.

YELLOW FEVER—UNITED STATES.

Louisiana: New Orleans, July 21-Nov. 25, 3,395 cases, 460 deaths.

YELLOW FEVER—FOREIGN.

District of Honduras: Belize, Nov. 23-30, 1 case, 1 death.
Cuba: Habana, Oct. 16-Dec. 5, 31 cases, 11 deaths.
Ecuador: Guayaquil, Nov. 7-14, 2 deaths.
Honduras: Puerto Cortez, Nov. 19-25, 3 cases, 1 death.
Mexico: Vera Cruz, Nov. 19-25, 1 case, 1 death.
Panama: Nov. 20, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Manila, Sept. 30-Oct. 21, 21 cases, 22 deaths; Province, to Oct. 7, 210 cases, 183 deaths.

CHOLERA—FOREIGN.

India: Madras, Oct. 21-27, 38 deaths.
Straits Settlements: Singapore, Oct. 21-28, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Manila, Sept. 30-Oct. 21, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Africa: (Portuguese) Chinde, Sept. 29-Oct. 8, 6 deaths.
China: Hongkong, Oct. 7-21, 3 cases, 3 deaths; Yingkow, Oct. 21, 6 cases, 5 deaths.
India: Bombay, Oct. 24-31, 7 deaths; Karachi, Oct. 21-Nov. 5, 20 cases, 17 deaths.
Japan: Kobe, Oct. 14-21, 3 deaths.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon general, Public Health and Marine-Hospital Service, during the week ended December 15:

SMALLPOX—UNITED STATES.

California: Los Angeles, Nov. 18-Dec. 2, 4 cases.
District of Columbia: Washington, Dec. 2-9, 3 cases.
Florida: Jacksonville, Dec. 2-9, 3 cases.
Illinois: Galesburg, Dec. 4-11, 1 case.
Kentucky: Covington, Dec. 2-9, 1 case.
Louisiana: New Orleans, Dec. 2-9, 4 cases.
Maryland: Baltimore, Dec. 2-9, 1 case.
New York: New York, Nov. 25,-Dec. 2, 1 case.

SMALLPOX—FOREIGN.

Africa: Cape Town, Oct. 14-21, 4 cases.
Brazil: Pernambuco, Oct. 14-31, 93 deaths.
Chile: Iquique, Nov. 4-11, 7 cases, 5 deaths.
China: Hongkong, Oct. 25-Nov. 1, 1 case; Shanghai, Nov. 1, present.
France: Paris, Nov. 18-25, 21 cases, 2 deaths.
Great Britain: Liverpool, Nov. 11-18, 1 case.
India: Bombay, Oct. 31-Nov. 7, 1 death; Madras, Oct. 28-Nov. 10, 27 deaths.
Italy: Catania, Nov. 16-30, 3 deaths.
Russia: Moscow, Oct. 7-28, 18 cases, 3 deaths; Odessa, Oct. 21-Nov. 11, 41 cases, 10 deaths; St. Petersburg, Oct. 28-Nov. 4, 6 cases, 1 death.
Spain: Barcelona, Nov. 10-30, 11 deaths.

YELLOW FEVER.

Cuba: Habana, Oct. 16-Dec. 13, 43 cases, 13 deaths; Matanzas Province, Dec. 8-13, 4 cases, 1 death.
Honduras: Puerto Cortez, Nov. 14-21, 1 death.
Mexico: Tehuantepec, Nov. 25-Dec. 2, 1 case.
Panama: Colon, Nov. 21-28, 2 cases, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Oct. 21-28, 4 cases, 3 deaths.

CHOLERA—FOREIGN.

India: Madras, Oct. 28-Nov. 10, 26 deaths.

PLAGUE—FOREIGN.

India: Bombay, Oct. 31-Nov. 7, 14 deaths.
China: Hongkong, Oct. 14-Nov. 1, 5 cases, 5 deaths; Niuchwang, to October, 4 deaths.
Japan: Formosa, Oct. 1-31; 1 case, 1 death; Kobe, Nov. 8-19, 13 cases, 11 deaths; Osaka, Nov. 2-17, 23 cases, 15 deaths.
Strait Settlements, Singapore, Oct. 14-21, 1 death.

Medical Organization

Georgia.

Middle Georgia Medical Association.—The physicians of this section met at Griffin December 8 for the purpose of effecting a reorganization of the association.

Wilkes County Medical Society.—The physicians of Wilkes County met recently at Washington and perfected permanent organization on the standard plan. The new society has on its roll every practicing physician in the county. Dr. Thomas J. Willis was elected president; Dr. John J. Hill, vice-president, and Dr. A. W. Simpson, secretary and treasurer, all of Washington.

Elbert County Medical Society.—The physicians of Elbert County met in Elberton, December 5, and formed a county medical society on the standard plan. The following officers were elected: President, Dr. A. S. J. Stovall, Elberton; vice-president, Dr. Amos C. Smith, Coldwater; secretary and treasurer, Dr. William A. Matthews, Elberton, and censors, Drs. Joseph E. Johnson, L. Pope Eberhardt, and A. B. Matthews, all of Elberton.

Newton and Rockdale County Medical Society.—Under the direction of Dr. Edward C. Davis, Atlanta, councilor for the fifth district, a local medical society has been organized on the standard plan, which includes in its membership the physicians of Newton and Rockdale counties. Dr. E. W. Ragsdale, Starrsville, was elected president, and Dr. W. Darracott Travis, Covington, secretary. The society will meet monthly, alternating between Conyers and Covington.

Kansas.

Greenwood County Medical Society.—The physicians of the county met at Eureka, November 16, and with the assistance of Dr. Oliver J. Furst, Peabody, councilor for the fourth district, perfected the organization of a county medical society on standard lines. Dr. Leslie S. Trusler, Fall River, was elected president; Dr. Jeptha Dillon, Eureka, vice-president, and Dr. William T. Grove, Eureka, secretary and treasurer.

Harper County Medical Society.—On the call of Dr. Oliver J. Furst, Peabody, councilor of the fourth district, a meeting of the physicians in Harper County was held at Harper, November 8, at which a county association was formed on the standard plan. The following officers were elected: Dr. Clarence W. Winbigler, Harper, president; Dr. Charles J. Callender, Anthony, vice-president; Dr. Alpha D. Updegraff, Anthony, secretary and treasurer; Drs. Marcus P. Crisler, Attica; J. Andy Bowles, Bluff City, and B. S. Jordan, Waldron, censors, and Dr. Arthur E. Walker, Anthony, delegate to the state society.

Michigan.

Muskegon-Oceana County Medical Society.—At a meeting held in Muskegon, December 8, the name of the Muskegon Medical Society was changed to the Muskegon-Oceana Medical Society. Dr. John F. Denslow, Muskegon, was elected president; Dr. J. D. Buskirk, Shelby, Oceana County, vice-president; Dr. Vernon A. Chapman, Muskegon, secretary; Dr. Jacob Oosting, Muskegon, treasurer, and Dr. George S. Williams, Muskegon, censor.

Ohio.

Noble County Medical Society.—Dr. Charles H. Higgins, Zanesville, acting for Dr. Edmund C. Brush, Zanesville, councilor for the eighth district, went to Caldwell, November 15, to organize a medical society for Noble County.

Columbus (East Side) Medical Society.—At a meeting held in Columbus, December 6, at which 25 physicians of the East Side were present, it was decided to form an organization.

Dr. George M. Clouse was elected temporary chairman, and Dr. Grace Welch, temporary secretary.

Oregon.

Josephine County Medical Association.—The physicians of Josephine County met recently in Grant's Pass and organized a medical society on the standard plan. At the last meeting the association put itself on record as opposed to the lodge or contract system of the practice of medicine.

South Carolina.

Laurens County Medical Society.—At the annual meeting of this society a reorganization was effected on the standard plan, under the direction of Dr. Orland B. Mayer, Newberry, councilor for the third district. The officers elected were as follows: Dr. John H. Miller, Cross Hill, president; Drs. William H. Gial, Laurens, and S. F. Blakely, Ora, vice-presidents; Dr. A. J. Christopher, Laurens, treasurer; Dr. Rolfe E. Hughes, Laurens, secretary, and Drs. W. D. Ferguson, Laurens; Jesse H. Teague, Laurens, and T. L. W. Bailey, Clinton, censors.

Sixth District Medical Association.—At the annual meeting of the Pee-Dee Medical Society and the society of the Sixth Councilor District, held in Florence, November 15, under the presidency of Dr. Frank H. McLeod, councilor of the district, it was decided to merge the two organizations. The following officers were elected: Dr. James L. Napier, Blenheim, president; Drs. James Evans, Florence; Joseph F. Dusenberry, Conway; Joseph C. Lawson, Darlington, and C. Henslee, Dillon, vice-presidents, and Dr. Bery G. Gregg, Florence, secretary and treasurer. A committee was appointed to revise the constitution and to report at the next meeting.

Tennessee.

Wilson County Medical Society.—The physicians of Wilson County met recently at Lebanon and organized a medical society with the following officers: Dr. G. R. Gwynn, Lebanon, president; Dr. Jerry W. McFarland, Corums, vice-president, and Dr. A. O. Eskew, Partlow, secretary and treasurer.

Sullivan County Medical Society.—The Bristol Medical Society, at its regular meeting, December 4, was formally disbanded and in its stead was formed the Sullivan County Medical Society on the standard plan. Dr. McMinn Pearson was elected president; Dr. M. B. St. John, vice-president, and Dr. Nathan H. Reeve, secretary and treasurer, all of Bristol. The Virginia members of the society will be entitled to retain their membership as privileged members and will enjoy the same privileges as the Tennessee members, with the exception of membership in the State Medical Society of Tennessee.

Texas.

Bowie County Medical Society.—At a meeting of the members of the Bowie County Medical Society and visiting physicians, November 17, to hear Dr. J. N. McCormack, a motion was made and unanimously carried that the secretary of the Bowie County Medical Society express its thanks for the very interesting and instructive addresses of Dr. McCormack, chairman of the Committee on Organization of the American Medical Association, and that a copy of these resolutions be sent to the Secretary of the American Medical Association.

We feel that Dr. McCormack has done us a great deal of good, that new interest has been aroused and that many new members will be the result of his work.

T. F. Kittrell, Secretary.

Society Proceedings

COMING MEETINGS.

American Dermatological Association, New York, Dec. 28-30.
Western Surgical and Gynecological Association, Kan. Mo., Dec. 28-29.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Eighteenth Annual Meeting, held in Louisville, Ky., Dec. 12-14, 1905.

Under the Presidency of Dr. Lewis C. Bosher, Richmond, Va.

Surgical Repair of Injured Nerves.

Dr. J. Shelton Horsley, Richmond, Va., classified the surgical methods of repair as follows: 1. Simple nerve suture, including all cases where the ends of the nerve are brought into direct contact and sutured, even when nerve stretching or resection of the long bone may be necessary. 2. Flap operations, which are usually unsatisfactory. 3. Nerve bridging. By this term is meant those cases in which a foreign substance is used to bridge over the defects between the ends of the divided nerve. This includes not only transplantation of nerve tissue from lower animals, but also *suture à distance.* 4. Nerve implantation or anastomosis. Under this head are included those cases in which the ends of an injured nerve are implanted into a healthy nerve.

He reported a case falling under the last classification. The patient suffered an injury as a result of which the upper part of the median nerve was destroyed for two and a half inches and the musculo-spiral injured in the lower part of the arm, with paralysis of all muscles in the hand and forearm except those supplied by the ulnar. Three months after this the median was implanted laterally into the ulnar. Fourteen months later both flexion and extension returned to a marked degree. At that time the musculo-spiral was cut across and implanted laterally into the median. Ten months after the second operation sensation and motion of the hand and forearm had almost completely returned. In discussing several points connected with the case Dr. Horsley concluded that the extensors must have been supplied through the anterior interosseous of the median, because flexion and extension improved simultaneously, and because extension was not interfered with at the second operation, when the musculo-spiral was completely divided.

DISCUSSION.

Dr. Charles H. Mayo, Rochester, Minn., said one question that interests him more especialy is the difference in the ability of repair of a sensory nerve and a motor nerve; also combined sensory and motor nerves. For instance, about the head, where we have the purely motor and sensory nerves, it is almost impossible to keep a sensory nerve from uniting itself. It will get out and grow for inches and repair itself; but a sensory nerve having peripheral impulses toward the center seems to lack regeneration like a motor nerve in which the impulse comes from the center out. He has taken out the infraorbital, plugged the opening with silver, and has had a case as many as seven years without return of sensation in that area, yet within a few months, after operating again, and removing the silver plug, the sensory nerve which had been lying dormant for this length of time, would get out, hunt up a partner, so to speak, and go to work. Take the motor nerve of the arm, where there are acute sensory and motor nerves, we will get more rapid regeneration because of the peripheral impulses, and as the sensory nerve of the arm is so much in excess over that of the nerve of the leg, we will get earlier repair in the surgery of nerves of the arm than we will in the nerves of the leg.

Foreign Bodies in the Esophagus.

Dr. Stuart McGuire, Richmond, Va., said that the diagnosis of foreign body in the esophagus is based on the history of the case, the external palpation of the neck, the passage of an esophageal bougie, and finally by the use of the x-ray. The character and location of the foreign body being determined, the practical question is how to remove it. If it is round or smooth, efforts should be made to extract it with forceps and probangs, or to make the patient eject it by swallowing masses of partially masticated food and then vomiting. If it be small, it may seem wise to endeavor to push it into the stomach. None of these expedients should be tried when the foreign body is pointed, sharp or angular. Under modern surgical technic an open operation is the safest procedure. There are two means of approach, one by an external esophagotomy, the other by a gastrotomy, and the selection of the method depends on the location of the impaction. If it is opposite the cricoid cartilage, an esophagotomy should be done; if it is below the level of the supraclavicular notch, then gastrotomy should be performed.

As an illustration of the operations of esophagotomy and gastrotomy he reported 2 cases. In one the patient, aged 10, while playing with a glass stopper, put it in her mouth and swallowed it. It lodged in the esophagus opposite the cricoid cartilage and produced complete obstruction. The foreign body was removed by an external esophagotomy.

In the second case, a baby aged seven months, while being dressed, seized an open safety-pin and put it in its mouth. The mother, in her efforts to remove it, pushed it first into the fauces and then into the esophagus. The pin was removed in this case by a gastrotomy.

DISCUSSION.

Dr. J. Wesley Long, Greensboro, N. C., reported the case of a forty-six-day-old infant who had swallowed an open safety-pin; the pin lodged in the esophagus opposite the two cricoid cartilages. A radiograph, however, showed that the point of the pin was below the arch of the aorta. It produced constriction of the esophagus where the left bronchus crosses it, and the pin was removed by an external esophagotomy without shock. He thinks there are some cases in which this operation is preferable to gastrotomy.

Dr. W. S. Goldsmith, Atlanta, Ga., mentioned the case of a patient who swallowed the concave part of a dental plate, which lodged in the esophagus, and was retained for a period of four months. At the end of this time patient was very much emaciated and weak. After locating the foreign body, efforts were made to extract it with forceps, but this could not be done. It then occurred to him to try Bull's method of attaching a series of sponges to a long silk ligature and using an esophageal bougie, passing it out through the mouth and leaving in position the series of sponges. After attaching the bougie, he said it is a simple matter by a few sweeping movements backward and forward to push the foreign body into the stomach and extract it through a gastrotomy opening. The foreign body in this case was of such consistency that the *x*-ray was of no value.

Dr. H. A. Royster, Raleigh, N. C., narrated the case of a child 2 years of age who, two weeks previously to his seeing the case, had swallowed the wheel of a tin toy wagon. The child was able to swallow liquids, but not solids. During this time it subsisted on milk and liquid food. He used a medium-sized shotted semi-elastic bougie for the purpose of an examination; this passed into the esophagus, met with some resistance on its way, after which he was enabled to pass it farther without destruction. After applying a mouth-gag he was enabled to extract the foreign body with an esophageal forceps. The foreign body lay transversely across the esophagus.

Dr. J. Shelton Horsley said that if a foreign body can not be removed by ordinary means, no time should be lost in resorting to early operation. He reported the case of a child who had swallowed a camel from a grab-bag. The child put it into its mouth; it was situated a little lower than the level of the larynx. He tried to extract it by several different methods, but was unsuccessful. He saw the child on the fourth day after it had swallowed the foreign body, did an esophagotomy, and removed it with comparative ease. The esophagus was injured and gangrenous. Septic symptoms developed, and the child died on the fourth day following the removal of the foreign body. He thinks the child's life might have been saved by an earlier operation.

Dr. Charles M. Rosser, Dallas, Texas, reported 2 cases of foreign bodies in the esophagus. In one the foreign body, an ordinary pin, was located by the *x*-ray, but could not be removed by ordinary means. Two-thirds of the pin was buried, but with the aid of the fluoroscope the pin was caught by its head and with forceps extracted. In the other case a child had swallowed a nickel, which was located within two or three inches of the cardiac end of the esophagus. Gastrotomy was performed and the foreign body extracted. The child lived about six or eight hours, then died, apparently without shock.

Dr. Rufus B. Hall, Cincinnati, reported the case of a child of a physician, five months old, who swallowed a safety-pin an inch and a half long. It remained in the esophagus for a time, but at the end of twenty-four or thirty-six hours the symptoms caused by its presence disappeared. The child was able to take the breast and thrived well. An *x*-ray picture was taken, which disclosed an open safety-pin in the pyloric end of the stomach. Parents declined to have an operation done for its removal until unfavorable symptoms developed. Several *x*-ray pictures were subsequently taken, but the child did not develop any symptoms referable to the presence of the safety-pin. When the child was twenty-six months old it passed the pin by the natural route. The child is now 7 years of age.

Dr. W. D. Haggard, Nashville, Tenn., related the case of a child eighteen months old who swallowed a pin, the head of which was as large as a cherry seed. As the child developed cough, the presumption was that the pin had lodged in a bronchus. An *x*-ray picture threw very little light in regard to the presence of the foreign body. The pin appeared to be located in a bronchus with its head down and to the left. The child had little or no pulmonary symptoms to justify an operation. At the end of ten days another *x*-ray picture was taken, but the symptoms were so slight that operation was postponed. Four days later another radiograph was taken, which failed to locate the pin, and shortly after this the child passed the pin by the natural route.

Officers.

The following officers were elected for the ensuing year: President, Dr. George H. Noble, Atlanta, Ga.; vice-presidents, Dr. Stuart McGuire, Richmond, Va., and Dr. E. Denegre Martin, New Orleans; secretary, Dr. W. D. Haggard, Nashville, Tenn. (re-elected); treasurer, Dr. Charles M. Rosser, Dallas, Texas (re-elected).

Baltimore was selected as the place for holding the next annual meeting.

(To be continued.)

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held Oct. 24, 1905.

Dr. H. M. Sherman in the Chair.

Cholecystectomy as an Initial Procedure.

Dr. T. W. Huntington reported the history of a patient who had had repeated attacks of biliary colic, accompanied at times by jaundice, fever and clay-colored stools. At operation after a particularly violent attack, the gall bladder was found to contain 16 large stones and about four ounces of thick, grayish, opaque fluid. No stone could be found in the common duct. The gall bladder was drained, and the drainage tube was removed on the fifth day. The discharge of bile through the fistula continued, however. A few days after the operation the stools became clay-colored and remained so. Seven weeks after the operation the abdomen was again opened. No cause for the common duct obstruction could be found except an enlarged, hard head of the pancreas, probably due to a chronic pancreatitis. A cholecystenterostomy was then performed, using a linen thread to unite the lateral surfaces of the gall bladder to the duodenum, after the method of McGraw, and fortifying with a row of Lembert sutures. At subsequent operations it was necessary to reopen this anastomosis with a knife, after dilating the sinus, and finally to close the sinus itself. Since then the patient's recovery has been rapid and complete. Huntington said that cholecystectomy as a deliberately planned initial procedure is proper (1) in extensive trauma of the viscus where suture is impossible, (2) when there is a long-standing and impermeable stricture of the duct, (3) in gangrene of the gall bladder, and (4) in malignant disease of the gall bladder. It is probably better not to leave in a contracted gall bladder following chronic cystitis in most cases (1) because there may be, as in the present case, an undiagnosed obstruction in the common duct, which could later be relieved by performing a cholecystenterostomy, and (2) because the drainage afforded through the cholecystostomy wound may be of value in relieving an infected biliary system.

DISCUSSION.

Dr. B. MacMonagle stated that there are other possible indications for a primary cholecystectomy. Dr. Clinton Cushing frequently performed this operation, in most cases with satisfactory results. In cholecystitis the gall bladder is infected, and if we can be certain that the common duct is open it might be justifiable to do a cholecystectomy and so remove the main seat of infection. Yet it is hard to exclude stones in the hepatic ducts which may later cause a common duct obstruction and so, as a general rule, it is better to leave the gall bladder in at the operation.

Dr. J. H. Barbat believes that the gall bladder should be removed only when the cystic duct was absolutely occluded and a cholecystostomy could not, therefore, drain the bile ducts.

Dr. T. W. Huntington said that it is difficult to determine whether the closure of the cystic duct is a temporary or a permanent one, and that a stone in the common or hepatic ducts can never be absolutely excluded.

Pseudo-tuberculosis of the Peritoneum.

Dr. C. M. Cooper stated that of the many causes that may give rise to structures resembling true tubercles, the most important so far as the peritoneal cavity is concerned are animal parasites and foreign bodies. Tenia eggs and the hooklets of the echinococcus have both produced in the abdominal cavity a condition that resembles tuberculosis and can be distinguished from it only by finding the causative agents within the small nodules. Cholesterin crystals from a ruptured ovarian cyst and pieces of sponge that had been left in the peritoneal cavity at operation have produced similar conditions. Finally the foreign bodies may be food particles that have reached the peritoneal cavity through a perforated gastric ulcer, as in Hanau's case and the one here reported, that of a middle-aged woman whose illness had begun suddenly six weeks before with pain in the lower abdomen; no fever, vomiting or intestinal obstruction; pulse rapid and feeble; marked aversion to food. The abdomen was somewhat distended, with slight tenderness over its lower portion. Free fluid could be demonstrated within the abdomen. Dullness posteriorly over the ascending colon. Leucocytes, 12,000. At operation a large quantity of brownish fluid was evacuated from the peritoneal cavity and the intestines were seen to be studded with innumerable miliary tubercles. At autopsy a postcolonic collection of pus was found originating from a perforated gastric ulcer. Microscopic examination showed that the peritoneal nodules contained no tubercle bacilli, but did contain small food particles that had evidently escaped from the stomach through the perforated ulcer.

Regular Meeting, held Sept. 26, 1905.

Dr. D. W. Montgomery in the Chair.

Palpable Ulnar Nerves.

Dr. C. M. Cooper showed a patient with a chronic inflammation of the joints, multiple glandular enlargements, and enlargement of the spleen. The ulnar nerves were thickened. Dr. Cooper believes that such thickening is far from uncommon and that it is most apt to occur in patients who have chronic joint affections of the hands. This fact should be borne in mind when enlargement of the peripheral nerves is found in suspected cases of leprosy.

Protection from the X-Ray.

Dr. C. M. Cooper protects himself from the deleterious effects of the *x*-ray by standing in a leaden compartment and making all observations by means of mirrors. One mirror reflects a fluoroscopic image of a known test object and in this manner the penetrating quality of the rays can be estimated. Another mirror, by reflecting the tube itself, indicates the general character of the light. In this manner the operator is not exposed at all to the direct action of the light.

Dr. B. F. Carpenter stated that he knew of an x-ray operator who had no active spermatozoa in his semen as long as he was using this light regularly. Active spermatozoa, however, reappeared after he discontinued its use.

Underlying Conditions in Erythema Multiforme Exudativa.

Dr. P. K. Brown reported two cases of erythema multiforme exudativa which showed lesions in organs other than the skin. The first patient was a child 6½ years old that had had attacks of tonsillitis with endocarditis extending over a period of four years. In December, 1904, the patient had ten days of epigastric pain, and following this some fever and a punctate eruption over the trunk, shoulders and thighs. There was general glandular enlargement, the heart was more irregular than usual, and the murmur was louder. The urine contained albumin, red blood cells, and a few casts. On the third day the patient suffered from pains in the ankle joints. Desquamation began on the fourth day and lasted six weeks. The affected areas desquamated entirely, even the nails taking part in the process. The second patient was the same age. During the first attack in January, 1904, the fever reached 104.2 and lasted three or four days. The first eruption appeared early, covered the whole body and was scarlatiniform in character, except on the shins, where it was more blotchy and irregular. There was general glandular enlargement. Eleven days after the onset, multiple miliary hemorrhages appeared over the body, and these were accompanied by hemorrhages from the mucous membranes and by signs of pericarditis. On certain parts of the body areas of circumscribed edema were visible. Desquamation lasted about two weeks. Blood cultures were negative. There was a marked anemia; hemoglobin, 28 per cent., and red cells, 1,700,000, with a relative increase in the mononuclear leucocytes. The child made a slow but uninterrupted recovery. In the year and a half that have elapsed since that time the patient has had eight or ten similar attacks, some of which have been very light, and only one was accompanied by extensive eruption and desquamation. In the beginning of the attacks undigested food is frequently found in feces, and the breath often has a heavy odor.

DISCUSSION.

Dr. Howard Morrow stated that typical erythema multiforme desquamativa runs a course that is different from that described by the speaker. He was inclined to diagnose the cases reported as desquamative scarlatiniform erythma.

Dr. D. W. Montgomery has seen very few cases of erythema multiforme with severe internal lesions, other than joint pains, that do not yield to the salicylates.

SOUTHERN MEDICAL COLLEGE ASSOCIATION.

Annual Meeting, held at Louisville, Ky., Dec. 11, 1905.

Under the presidencey of Dr. Christopher Tompkins, Richmond, Va.

Ten of the fourteen colleges of the association were represented. More stringent rules applying to the admission of students were adopted.

President Tompkins read an address on "The Advancement in Preliminary Educational Requirements." The suggestions set forth in the address, after considerable discussion, were resolved in a motion which was unanimously passed. The motion provided that from the present time until January, 1908, an applicant for admission to any college of the association must have had two years in a recognized high school or a certificate from an acknowledged preparatory school, besides a grammar school education. After Jan. 1, 1908, there will be required for admission a high school diploma, or a certificate of graduation from a recognized preparatory school, and the courses at the college shall be for four years of seven months each instead of six months, as is the case with some schools at the present time.

Since the last meeting five colleges not in the association have either filed applications for membership or will do so within a short time. Two of the colleges which have filed applications are the Medical Department of Epworth University, Oklahoma City, Okla., and the Medical Department of the Southwestern University, Dallas, Texas. The other three colleges are in Georgia and Maryland.

Officers.

The following officers were elected for the ensuing year: President, Dr. Christopher Tompkins, Richmond, Va. (reelected); vice-president, Dr. T. H. Fraser, *Mobile, Ala.*; secretary and treasurer, Dr. G. C. Savage, Nashville, Tenn. (reelected); executive committee, *Dr. J. S. Kane, Nashville,* Tenn.; Dr. W. B. Rogers, Memphis, Tenn., and Dr. Stuart McGuire, Richmond, Va.

The next meeting of the association will be held at the same time and place (Baltimore) as the Southern Surgical and Gynecological Association.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, held Oct. 5, 1905.

Dr. R. C. Morris in the Chair.

Hemiterata.

Dr. Charles S. Barnes exhibited a specimen belonging to the class of malformations known as hemiterata. The mother, aged 24, had previously given birth to two healthy children, the oldest 2 years of age. In the second pregnancy there was an excess of amniotic fluid. During the recent pregnancy only apparent abnormalities were increased thirst and undue abdominal enlargement. Labor, delayed because of the excessive distension of the abdomen, was terminated spontaneously after manual rupture of the membranes. The latter was followed by the discharge of about four quarts of amniotic fluid. The child, a male, was apparently well formed, and, for the first twenty-four hours seemed healthy. At the end of this time it began to regurgitate all liquid given by mouth, and later frequently vomited much dark green liquid similar to that seen in intestinal obstruction of the adult. Enemata were ineffective in freeing the bowels. Death by exhaustion occurred at the end of seventy-two hours.

The probable diagnosis of intestinal obstruction was confirmed by the specimen. Two inches of the duodenum, beginning one and one-half inches below the pylorus, consist of a small impervious fibrous cord. Below the latter, for a short distance, the gut is abnormally small but patulous, thence gradually shading into a normally formed gut. The presence of hyramnios raises the interesting question as to whether the abnormality and the hydramnios are related as cause and effect. Though not definitely determined in this case, it seems more than probable that the lesion of the gut in this region may have caused stenosis of the umbilical vein.

A few practical thoughts suggested by this case are: 1. The probable futility of any surgical intervention in this and similar cases, although it would be advisable to try it, if positive diagnosis can be made. 2. The complications of parturition incident to hydramnios. 3. The frequency of the association of hydramnios and fetal abnormalities. 4. The obscurity of the etiology of hydramnios and the desirability of careful search for pathologic lesions as causes. 5. As valuable knowledge is often to be acquired by postmortem study of the fetus, whatever may have been the apparent cause of death, such study should always be made when possible.

Backache in Women and Its Treatment.

Dr. William E. Parke said that backache is a frequent symptom in women coming to gynecologic dispensary service. In a record of 1,000 cases 25 per cent. or more were found to present this symptom. The seat of pain is the lumbar, the sacral or the coccygeal region. The lumbar pains are usually due to some general disorder, while the sacral and coccygeal pains are more frequently due to some disorder of the pelvic viscera, such as lacerations, displacements, inflammations or tumors. The most frequent cause of backache is neurasthenia and this in turn may be due to the pathologic condition of the pelvis. Backward displacements are particularly prone to cause backache, due, perhaps, to impeded circulation. It was present in this condition 194 times and absent only 40 times. Backache was noted in 46 patients without gross pelvic lesions. Many of these doubtless had under-developed or cirrhotic ovaries. Backache is sometimes due to toxemia from intestinal absorption of imperfect metabolism, also to congestion of the menstrual period. Pain in the coccyx is due to inflammation, dislocation or fracture. It is often a pure neurosis. Many diseases of the bowels, muscles, kidneys and nerves which give rise to backache are not referred to in this paper.

The treatment of backache is complex and often unsatisfactory. Medical and surgical measures are employed. Toxic and lumbar backaches are treated with laxatives, diuretics and colon irrigation. Some are given salol, salicylates or iodids. To the congestive type are administered ergot, digitalis, strychnin and bromids. The anemic are given iron and tonics. Temporary relief is afforded by the use of local counter irritation. For neurasthenics the rest cure is advised. Surgical measures have for their object the sewing up of lacerations, the correcting of malpositions and the removal of diseased organs and tumors.

DISCUSSION.

Dr. Charles P. Noble believes that renal trouble seldom causes backache. In cases of movable kidney, as a rule, there is no backache. When present, the pain is due to congestion or to torsion of the ureter. If a loose kidney becomes partly twisted so as to interfere with return circulation, the kidney becomes congested and there is a certain amount of local soreness that may be felt in the back.

Dr. William Krusen emphasized the value of the drinking of large quantities of water in these cases. Frequently a rheumatic diathesis is associated with pelvic disease. He has never seen a case of nephritis with backache, although people think they have kidney trouble when they have backache. Pains may be due to the lithemic diathesis, and a certain proportion of backache is due to traumatism. The fact that women are habitually constipated and that they drink small quantities of water are two factors to be borne in mind in treatment. Hydrotherapy plays an important part in the relief of symptoms.

Miscellany

An Efficient Army Medical Department.—In discussing this Dr. G. Frank Lydston says that the concentration of abundant, up-to-date medical supplies—in the purchase of which boodle should have no part—in centers which present suitable transportation facilities is a *sine qua non.* Surgeons should be given more authority and a freer hand, and should be appointed for their capacity and not for their political pull. Several thousand miles, more or less, of red tape should be eliminated from the medical department and thrown into the ashheap, where it properly belongs.

The Profession of Medicine.—In two respects the medical profession deserves the grateful recognition and regard of all other callings in modern life. It has always insisted that the practice of medicine is a profession and not a trade. Trade is occupation for livelihood; profession is occupation for the service of the world. Trade is occupation for joy of the result; profession is occupation for joy in the process. Trade is occupation where anybody may enter; profession is occupation where only those who are prepared may enter. Trade is occupation taken up temporarily, until something better offers; profession is occupation with which one is identified for life. Trade makes one the rival of every other trader; profession makes one the co-operator with all his colleagues. Trade knows only the ethics of success; profession is bound by lasting ties of sacred honor.—President Faunce of Brown University, Addressing the Rhode Island Medical Society.

Means to Correct the Dispensary Abuse.—Imhofer of Prague discusses, in the *Prag. med. Wochft.* for October 5, the best means to combat the dispensary abuse, which has assumed large proportions there. He suggests as the measures best adapted for local conditions that all applicants to the dispensary should have to pass first through a room where an inspector demands a certificate testifying to the bearer's lack of means or a line from a physician indorsing his application. A card is then given the applicant and he can then proceed to the dispensary proper, or to the clinic or ward. No one is admitted to the dispensary or clinic without presentation of a numbered card of this kind. The inspector is always at liberty to pass an applicant directly into the dispensary or clinic when circumstances demand the avoidance of red tape delay, and an applicant accompanied by his physician should also have free right of way. By some such sifting process the dispensaries and hospitals could be kept free for the poor, while those able to pay for medical attendance would be excluded from them.

An African Poison Test.—Dr. F. C. Wellman describes in the *Journal of Tropical Medicine* the poison test used in Africa to determine the guilt or innocence of a suspected person. He recently saw the test made with fatal consequences. He says:

> The agents which are generally used in this region are obtained from two *Leguminosæ, i. e.,* bark of the Ombambu tree (*Erythrophlœum guinense*) and leaves of a bush called Okalembe (*Jephrosi vogelu*), together with the rootlets of another bush belonging to the *Polygalaceæ* called by the natives Utata (*Securidaca longipedunculata*). All three are powerful poisons. These substances are

dried, powdered with various others, placed in the bottom of a small gourd and carefully covered with the resinous exudation from the Ulemba tree (*Ficus psilopoga*). On top of this is poured an evil-smelling mixture of different harmless solutions. Over the surface of the liquid is sprinkled a light-colored powder. The witch doctor, with many mystic incantations and flourishes, stirs the mess a couple of times with his finger, taking care not to touch the bottom. Then the fortunate party whom it is proposed to acquit drinks. The mixture is again stirred, scratching the resin at the bottom, and liberating the poisonous substances. After a few minutes of ceremonies and rites to gain time for the poison to thoroughly permeate the whole, the draught is once more stirred and the victim (who is always made to drink last) quaffs to his doom. Another method, similar in principle, is to have a skin bag with two compartments, one containing the poisonous powdered substances and the other an innocuous powder of the same color, sprinkling these in turn over the top of an inert decoction.

A SIMPLE CLASSIFICATION OF INSANITY.

THEODORE DILLER, M.D.
PITTSBURG, PA.

"In the interest of a simple classification of scientific terms," Dr. John B. Chapin, in his last annual report as superintendent of the department for the insane of the Pennsylvania Hospital, announces that the statistical tables of this institution have been modified. Turning to these tables one finds only these forms of insanity: Melancholia, mania, dementia and delirium from toxic conditions, paresis, epilepsy and imbecility—the same which were known to Pinel and Esquirol.

Dr. Chapin states that 60 forms of mania and 57 forms of melancholia, and 21 forms of dementia have been formulated; and apparently wearied and disheartened by the various attempted elaborate classifications of the insanities and of the failure of any general agreement between them, he goes back to the simplest of all classifications, that best known in the history of psychiatry, to the general medical profession and to the courts.

While one may readily sympathize with Dr. Chapin's feelings and desires it is not so easy to feel sure that this simple classification really simplifies the subject. Indeed, the question may be fairly raised as to whether it does not make it more hazy. The Gordian knot of the classification of the insanities is not so readily cut.

It would be interesting to know how Dr. Chapin would classify the cases commonly called paranoia or monomania, many of which exhibit neither mania, melancholia or dementia to any conspicuous degree; and how he would similarly dispose of cases known to other alienists as dementia præcox, maniac-depressive insanity, etc.

Certainly such a simple classification can convey but little information to the reader of Dr. Chapin's report. Much could be argued for a partial etiologic classification as compared with it. That a psychosis is of toxic or infectious, of evolutional or involutional origin may generally be ascertained with a considerable degree of accuracy; and a classification which sets forth these facts is helpful to him who peruses it; and hospital reports are intended to be of use to those who read them.

No classification of the enormous group of morbid mental phenomena commonly called insanity has ever been made which has met with general approval. None can be made today. Alienists generally are agreed, however, that a classification on a pathologic basis would, if it were possible, be the ideal classification; and while such a classification is not possible to-day, it is growing less and less impossible. It would seem that alienists should classify "insanities" as fully as is now possible on this basis, leaving to the future its full consummation. To this end it is always helpful to regard every case of insanity as an expression, or more properly, as a partial expression of a physical disease or maldevelopment, applying to it, besides the ordinary tests of psychology, those of the best current methods of clinical medicine.

In the meantime it would appear that a moderately extended classification of the insanities as given by Kraepelin, for instance, is of more practical value than the simple classification to which Dr. Chapin returns in that it allows for a better recognition and a better prognosis and treatment of the various physical diseases which express themselves chiefly or conspicuously by morbid mental phenomena commonly called insanity.

THE NEWSPAPER AND MEDICINE.

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The various news stories on medical topics, which appear in the daily press from time to time, are mines of mirth to those who know. Few articles on medical subjects which appear in the columns of the average newspaper are either truthful, accurate or scientific.

While the perusal of these stories often excites the risibilities unduly, there is a serious side to the matter. Newspapers, which to a very great extent are the popular teachers of the masses, are educating the people in the wrong direction by the dissemination of misstatements. When a part of the press condemns antitoxin because a few persons have died subsequent to its administration, thousands of people are prejudiced against this remedy. Many of these misinformed people would doubtless refuse to allow antitoxin to be used in their families if occasion required and, as a result, innocent lives would be offered up as a sacrifice on the altar of newspaper *inaccuracy*.

The medical profession is to blame for this state of affairs, because, as a whole, the papers do all in their power to present actual facts to their readers.

I know from previous years of experience as an editor in the metropolitan field that many editors take as much care to verify the statements given them as a bank cashier does to verify signatures to checks.

The field of the newspaper man is wide. Although often a college graduate, he can not reasonably be expected to be equally versed in medicine, law, theology, engineering and the other professions, into which subjects his work leads him almost daily. It is not to be wondered at, then, that a great New York paper should solemnly declare that a great surgeon (giving his name, of course), performed a marvelous operation which consisted in tying off the common "catotid" artery, an operation hitherto unknown, etc.

The average newspaper does not desire to make itself the laughing stock of the medical public by the publication of foolish and unscientific statements. The editor is usually actuated by high motives and realizing that the bulk of the people believe what they read, endeavors as far as in him lies, to lead his readers along the paths of truth and right.

He publishes an article on some medical topic, furnished by a young reporter and obtained in good faith, possibly from a drug clerk or hospital orderly. He is ignorant of the fact that its subject matter is rankest nonsense, for none of his medical readers has taken the trouble to so inform him. Thus he goes on publishing misstatements from the same irresponsible source, each time doing more and more to injure the cause of medicine in the eyes of the public.

Had some medical man called up the editor on the telephone and informed him of the blunders in the article the wielder of the pen would have been put on his guard. The young reporter would have heard from "the old man" in no uncertain terms, the drug clerk or hospital orderly as a source of medical misinformation would have been relegated to innocuous desuetude, and when medical subjects were treated in the future a reputable physician would have been consulted. It is in this way that the profession is to blame for the idiotic and inane medical tales which often appear in newspapers.

This growing evil can be remedied by a definite plan of campaign on the part of the trustees of the American Medical Association, the national clearing-house of things medical, which would have as an end the publication of medical truths in all the important papers of the country.

There is hardly an editor in the United States who would not gladly print from time to time accurate articles on medical topics, written in careful newspaper English, free from long and unusual medical terms.

A series of well written articles on the situation in Panama, for example, showing the great progress made in sanitary matters, and the institution of the very latest methods known to hygienic science by Colonel Gorgas and his able assistants and demonstrating how, by careful living along stated lines, the residents of the Canal Zone could obviate disease, would go far toward assuaging the fear of those who have relatives in Panama. If the present campaign against the health conditions along the line of the canal is continued, it will be quite impossible to obtain competent men to go there. The proper kind of publicity would change public opinion.

Again, take the casualities attendant on the barbarous manner in which we celebrate Independence Day. This year, according to newspaper reports, over fifty persons lost their lives by the explosion of powder in some form, while hundreds were maimed, many permanently. A series of articles published throughout the country in May and June, showing the awful results of the past celebrations of the Fourth, and the wide wake left by tetanus and its kindred diseases, would assist in arousing the people against this national slaughter and would conclusively demonstrate that patriotism could be shown in ways other than by killing and maiming the youth of the land.

There is a widespread prejudice among the masses against hospitals and operations. Surgeons are looked on as butchers, seeking whom they may knife. Carefully prepared articles could combat these foolish notions and could bring out the benefit derived from hospitals and operative procedures.

The patent medicine evil is the curse of the nation. Millions of people lay countless millions of dollars in the greedy maw of this ogre. Men and women contract habits from the constant use of patent medicines that forever after hold them in tenacious embrace and prove their ultimate ruin.

In no way could the American Medical Association do a greater service to mankind than by demonstrating to the public, through the daily press, the fallacy of the use of patent, secret nostrums. Of course, some papers, which carry the advertising of these concerns, would not publish articles attacking the business, but a majority of the reputable journals would gladly join in a righteous fight to put the vendors of alcohol and opiates, under high-sounding names, out of business.

Space forbids going further into details concerning the great undeveloped field for medical publicity, other than to say that seasonable articles should be furnished, instructing the people how to prevent the diseases peculiar to the various times of year and how to care for their bodies and their minds.

If such a scheme were put into effect the people would be better off, and would have far more respect for the physician, and the work he is striving to accomplish in preventive medicine and in the alleviation of disease.

The practice of medicine would be raised to a higher plane. Medical men, oftentimes classed by the public as high-grade artisans, would assume the high position to which they are entitled and which their fellow-practitioners in Great Britain already occupy.

To carry out this scheme will take much thought. The most feasible plan, to my mind, is to have the trustees establish a publicity bureau, the chief of which should map out the plan of campaign, oversee the preparation of articles, and communicate with the editors of the large papers concerning their acceptance of special articles. In short, the chief should act in a capacity similar to the managing editor of a metropolitan paper.

If the special stories were put up in the style usually adopted by Sunday papers, carefully edited and suitably illustrated, they would be accepted by practically every decent paper in the country. No two papers in the same city will take the same article, hence it would be necessary to have various separate lists, to which stories would be sent and which would not conflict with the other.

Besides this, it is extremely probable that arrangements could be made with the plate associations which supply specials in stereotyped form to all the weeklies and small dailies in the country, to furnish them with weekly contributions, so that the propagation of medical truth would extend to the very ends of the country, with the result that every reader of a paper from Maine to California and from Dawson City to Key West would profit by reading medical facts, not fancies.

The medical publicity bureau could also inaugurate a method for local, county and state societies to make such medical news public as is deemed necessary, for the correction of evils in their midst and for the squelching of the physician, who calls up the newspaper office every time he attends an accident case, performs an operation or goes out of town.

If the trustees of the Association will take up this matter either along the lines indicated or in a manner which seems best to them, I know that five years from now all the members of the medical profession in the United States will rise up and call the American Medical Association blessed.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Lobar Pneumonia in Children.

Dr. G. A. Sutherland, in the *Clinical Journal* (London), states in the treatment of lobar pneumonia in children that the greater number of cases, if put to bed, with fresh air and suitable diet, will generally recover. These cases, however, although the natural course of the disease can not be shortened, must be carefully observed, in order to relieve any troublesome symptoms which are liable to arise in the course of the disease, and to meet complications which are not unlikely to occur. Among these symptoms is pleuritic pain, which causes the child a great deal of suffering, and in the treatment of this symptom he recommends the application of a turpentine fomentation or a linseed poultice over the painful area for half an hour or until the skin is thoroughly reddened. This may be repeated some hours later, but it should not be kept on the chest continuously, irrespective of the presence of this symptom. He especially emphasizes, therefore, the value of these hot moist applications if used interruptedly.

In the diaphragmatic form of pleurisy two or three leeches may be applied over the affected area in combination with strapping of the affected side. When such treatment fails he recommends as a last resort the use of opium and morphin. In this connection he dwells on the contraindication of opium in pneumonia, because of its toxic effect on the respiratory center, and states that it should not be given except in extreme circumstances. Coughing is another symptom which is very disturbing to the patient, due in part, perhaps, to the irritation of the exudate which is present, or to the presence of a bronchitis. In either case the interrupted use of hot local applications, as described above, is of value.

He speaks also of the position of the patient in bed as being a cause in producing these paroxysms of coughing, and recommends that the position of the child be changed from time to time. If necessary, the use of steam inhalations may be resorted to in irritable conditions of the bronchi. It may be used for from ten to fifteen minutes at a time, and repeated at intervals of every four or five hours. When there is persistent coughing, with or without much secretion, he recommends the tincture of belladonna in doses of from 5 to 10 minims (.30-.65), repeated as the individual case requires. It is especially recommended when the secretion is in excess, as it dulls the sensory branches of the vagus throughout the lungs, and stimulates the respiratory centers. In some cases from 5 to 10 minims (.30-.65) of tinctura opii camphorata will relieve the hacking cough present.

Pyrexia is another condition in the course of pneumonia which sometimes must be combated, but it must be remembered that the height of the temperature is not necessarily an indication of the gravity of the disease, but prolonged high temperature after the seventh day tends rapidly to weaken the patient and must be carefully watched. The author deprecates the use of antipyretic drugs in the reduction of the temperature of pneumonia. In infants the employment of a hot bath, which may be rapidly cooled to 85 F., will frequently cause a drop in the temperature of from one to two degrees, and at the same time will relieve the restlessness of the patient. In older children he recommends sponging in bed with hot or tepid water, and in extreme nervous disturbances the temporary application of cold cloths or the icebag to the head. He also recommends the internal use of liquor ammoniæ acetatis in dram doses (4.00) as an antipyretic. This rise in temperature, however, may not be due to the toxic effect of the pneumococcus alone, but may be caused by gastrointestinal disturbances, and consequently calomel in small doses may relieve the hyperpyrexia, and the restlessness.

In the treatment of insomnia in these cases he recommends cold applications to the head or hot applications to the chest. The use of ammonium bromid in from 5 to 10-grain doses (.30-.65) is recommended as effective and as the least harmful of all the hypnotics. In some cases a dose of brandy, drams 2 to 4 (8.00-15.00) in hot water is recommended as a very efficient hypnotic.

Any signs of cardiac weakness must be carefully watched for, such as dilatation of the left ventricle or failure of the right heart, and at the onset of these signs he recommends the use of alcohol in the form of brandy or wine, strychnia and ether. For an infant one year old in the precritical stage of pneumonia he recommends strychnia in doses of from 1/100 grain to 1/200 grain (.0006-.0003) every four hours. If dilatation of the right ventricle is present, with cynanosis and dyspnea, showing an overaction of the right side of the heart, some depletion of blood is recommended. He therefore recommends the application of three or four leeches over the hepatic region, followed by a hot fomentation to encourage further bleeding. In connection with this treatment he advises further assistance by a two or three-grain dose of calomel, followed by a saline, in addition to the heart stimulants already recommended. Dry cupping is sometimes advised, employed over the base of the lungs posteriorly, as a substitute for the leeches.

He has not seen much benefit from the use of oxygen inhalations.

In some cases dyspnea and rapid breathing arise, which apparently do not depend on the pulmonary or cardiac condition. In such cases the cause is probably the failure of the respiratory center, due to the effects of the toxemia, and in these instances he recommends atropin as a direct respiratory stimulant, combined with strychnia, given in doses of from 1/100 to 1/200 grain (.0006-.0003) hypodermically every four hours for a child 5 years of age.

Laryngismus Stridulus.

Comby, in the *Medical Bulletin*, recommends that in these sudden paroxysms hot compresses be applied to the anterior portion of the neck, and that an emetic be given internally. The child, of course, should be confined to the house, and given hot drinks with antispasmodic remedies. The following combination is recommended in such conditions:

℞.	Tinct. belladonnæ	m. xx	1	30
	Potassi bromidi	gr. xxx	2	
	Syrupi aurantii corticis q. s. ad	℥i	30	

M. Sig.: One teaspoonful every three hours in a little water.

In severe cases the dose of the bromid may be increased. The following combination is sometimes recommended as a substitute for the foregoing:

℞.	Spiritus chloroformi	m. x		65
	Glycerini	ʒi	4	
	Syrupi tolutani	ʒv	20	
	Aquæ dest. q. s. ad	℥ii	60	

M. Sig.: One teaspoonful at a dose, and repeat every half-hour if necessary.

In some cases in which asphyxia may be probable, rhythmic traction of the tongue is recommended previous to intubation or tracheotomy. He recommends as prophylactic treatment of this trouble that any vegetative growths in the nasopharynx should be removed as well as large faucial tonsils, if present.

Mercury in Parasypilitic Conditions.

In the treatment of certain stages of syphilis and in those diseases due to the toxins of this disease, as tabes dorsalis, Dr. Frank Billings recommends mercury given in the usual form, as inunctions, by the application of the ointment to different portions of the body each day, preferably the inner portions of the thighs, the calves of the legs, the sides of the thorax, and the inner portion of the arms. He also recommends as a substitute for this method of introducing mercury into the system, the injections of the bichlorid of mercury deeply into the muscular tissue, about two or three times a week. The dose of the bichlorid recommended is about 1/25 of a grain (.0025). He especially recommends as probably the most suitable preparation of mercury in the treatment of these parasyphilitic conditions the salicylate administered in the following combination:

℞.	Hydrargyri salicylatis	gr. xxiv	1	65
	Liquid paraffin	ʒss	15	

M. Sig.: Five minims injected subcutaneously two or three times a week.

The advantage of this latter form of medication is that it is taken up very gradually by the system, and consequently the effects of mercury are present for a number of weeks or months after these injections have been made, owing to this slow absorption. The size of the dose may be gradually increased, if necessary, to meet the requirements of the case. The iodids are recommended in conjunction with this treatment, and are to be given in gradually increasing doses by the mouth.

The Treatment of Laryngeal Manifestations of Influenza.

E. J. Moure, in an abstract in *Merck's Archives,* states that the laryngeal manifestations of influenza may be described under four different forms—the catarrhal form, the infiltrated edematous form, the ulcerative form, and the myopathic form. As local treatment in these different conditions he recommends an inhalation of the following combination:

℞.	Menthol	gr. x		65
	Balsam peruviani	ʒss	2	
	Thymol	gr. i		06
	Tinct. eucalypti q. s. ad	℥ii	60	

M. Sig.: One teaspoonful floated on a pint of hot water as an inhalation.

In conjunction with this treatment he recommends hot fomentations externally applied to the neck and throat, as especially useful in the painful congestive forms. Scarification, according to the author, may be necessary in the edematous form, when the following combination fails to give the proper relief:

℞.	Cocainæ hydrochlor	gr. ii-iiiss		12-.20
	Sol. adrenalin (1-1,000)	m. xl	2	65
	Glycerini			
	Aq. menth. pip., āā	ʒvi	24	
	Aquæ q. s. ad	℥vi	180	

M. Sig.: To be used as a spray three or four time a day.

Later in the course of the disease, after the infiltration has subsided, he recommends applications of a silver nitrate or zinc chlorid solution, 1 to 100, locally to the affected parts.

Medicolegal

Competency of Witnesses.

The Supreme Court of Georgia says of a witness, in Macon Railway & Light Co. vs. Mason, that, had he been licensed under the laws of that state to practice medicine, he would have been competent to testify as an expert witness on the fact being made to appear that he was a licensed physician. But, generally, nothing more is required to entitle one to give testimony as an expert than that he has been educated in the particular trade or profession. Knowledge gained by consistent and close study of medical works renders one competent to testify as an expert concerning the matters of which he has thus learned. It is not essential that he should be actively engaged in the practice of medicine. Nor is it essential that one who really has a scientific education on the subject should be a graduate of any medical college, or have a license to practice from any medical board. What he knows is what really qualifies him to express an opinion as an expert, and a diploma or license is only important as furnishing satisfactory evidence of his competency as a witness. Accordingly, a person who is neither a physician nor surgeon can express an opinion on a medical question, when the matter inquired about lies within the domain of the profession or calling which the witness pursues. But not being a licensed practitioner, it is necessary to lay the proper foundation showing him to be an expert as to the subjects on which he proposes to express his opinion.

The court also holds that the wife of an injured party is not, because of the marital relation existing between them, and the policy of the law to preserve inviolate the confidential communications between husband and wife, incompetent to testify as to the nature of the injury received by him, and its effect on his physical condition, when there is nothing to indicate that her knowledge on the subject was gained because of any confidence which he reposed in her as his wife. The wife may testify to symptoms which she has observed indicating that her husband suffered from headache, but she should not be permitted to generalize or state any bare conclusion on her observation of others who had headache, she not professing to be an expert.

New Compulsory Vaccination Law.

Chapter 58 of the Acts of West Virginia of 1905 amends section 21 of chapter 150 of the Code of that state by providing that the county court of any county in the state, on petition of 100 voters of the county, shall direct and have enforced on any party or parties compulsory vaccination or quarantine, in case of smallpox epidemic, in any city, town or village of the county or in their said county. Any person refusing to be vaccinated when so directed by the county court, and who can not give satisfactory proof of having been vaccinated previous to that time, or a certificate from a reputable physician showing that a successful vaccination on his or her body is impossible or improper, or sufficient reason be given why it has not been done, shall be placed under quarantine as directed by section 7 of this chapter; provided, further, that when it shall be directed by the county court of any county in this state as herein provided. no child or person residing in a locality in which an epidemic is prevailing shall be admitted to or received into any of the public schools in any city, town, village or the county who can not produce a certificate or satisfactory proof showing a successful vaccination, or a certificate from a reputable physician showing that a successful vaccination on his or her body is impossible or improper, or sufficient reason be given why it has not been done, and the trustees or other officers having charge, management or control of such school shall cause the provisions of this act to be enforced when so directed by the county court. For the purpose of the enforcement of this act the county court may appoint competent physicians in any city, town, village or the county, and fix their compensation, which shall in no case exceed 25 cents for each successful vaccination; and such physicians shall provide themselves with good and reliable vaccine virus with which to vaccinate such persons when directed by the county court. If any physician shall give any person a false certificate of vaccination, as herein provided for, he shall be guilty of a misdemeanor, and on conviction thereof he shall be fined not less than $20 nor more than $100. Any person who shall have smallpox going into another county, within three months of said time, shall be required to produce a certificate showing that he has been properly cleansed and disinfected, which certificate shall state what has been done to accomplish this end, and if said certificate be acceptable to the county health officer of the county to which such person shall go, it shall be deemed sufficient and entitle such person to remain therein, but if not deemed sufficient, such person shall not be permitted to remain therein.

To Prevent the Spread of Communicable Diseases.

Chapter 519 of the Laws of Tennessee of 1905 provides that whenever any case of smallpox, yellow fever, cholera, bubonic plague, typhus fever, diphtheria, membranous croup, scarlet fever, or other communicable diseases exist (except it shall not embrace any venereal disease, such as gonorrhea or syphilis), or is even suspected to exist in any household, it shall be the duty of the head of said household, or any other person in such household possessing knowledge of said facts, to immediately notify the municipal or county health authorities. Furthermore, whenever any physician, surgeon or practitioner of medicine shall know or suspect that any person or persons, whom they have been called to visit, or who has been brought to them for examination (or any other suspicious information received relative thereto), is, or are infected, or even suspected, with any of the aforementioned diseases, he shall, and it shall be his duty to, immediately notify the health authorities of the town or county in which said diseased person or persons are found.

After receiving such notice, it shall be the duty of all municipal or county health authorities to immediately proceed to carry out such rules and regulations as the state board of health may prescribe, having for their object the prevention and restriction of the disease or diseases above mentioned. The house or locality shall be inspected, and the diseased person or persons, as well as any other person or persons exposed to said disease, may be quarantined. And when a case of either of the diseases above named is reported the local board of health or its health officer shall at once cause to be placed in a conspicuous position on the house where it exists a quarantine card having printed on it in large letters the name of the disease within, or to prohibit entrance to or exit from such house without written permission from the health officer, and no person quarantined by a local board of health or its health officer on account of having a contagious disease, or for having been exposed thereto, shall leave such quarantined house or place without the permission of the health officer, and every physician attending a person affected with any of the aforesaid diseases shall use such precautionary measures to prevent the spread of the disease, as may be required by said local board of health. No person shall remove or deface such card, which shall remain in place until after the patient has been removed from the house, or has recovered and is no longer capable of communicating the disease, and the said house and the contents thereof have been properly disinfected by the local board of health and all other sources of danger of communicating the disease are removed. It shall be the duty of every physician in attendance on any person afflicted with any contagious or infectious disease designated in this act to notify the proper health officer when said premises are ready for disinfection, so that the same may be properly disinfected under the directions of said health officer or some other person under his authority.

Municipal and county health officers or municipal and county boards of health may adopt such measures for the general or local vaccination of the inhabitants of their respective jurisdictions as they shall deem proper and necessary, and whenever necessary vaccinate such inhabitants to prevent the introduction or to arrest the progress of smallpox without being authorized or ordered by the state board, and the expenses in whole or in part of such general or local vaccination shall, on their order, be paid out of the city or county funds, as the case may be. Every person who shall refuse to be vaccinated or prevent a person under his or her care and control from being vaccinated on application being made by the said health officer or said board of health or by a physician employed for that purpose, unless in the written opinion of another physician it would not be prudent on account of sickness, shall be fined not more than $5 for each offense, and any physician fraudulently giving a certificate of sickness or of vaccination to prevent vaccination shall be fined not less than $25 nor more than $50.

Other provisions of the act are that whenever a place is quarantined it shall be the duty of the board of health to provide for all persons confined therein food, fuel, and all other necessaries of life, including medicine and nurses whenever necessary. On receipt of notice of existing or suspected disease as above the board of education, superintendent, or school district board shall be notified, and said public school authorities shall not allow any pupil to attend any public school from the house while any inmate of same is sick with smallpox or other communicable disease, or during the period of two weeks after the death, recovery or removal of the sick person. For one believing himself afflicted with a contagious disease to voluntarily go on the highway or enter a public conveyance, or to knowingly aid him to do it, is made a misdemeanor. The state board of health may carry out these provisions whenever a local board neglects or refuses to do it.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

December 9.

1 *Comparative Study of Various Forms of Tuberculosis. M. P. Ravenel, Philadelphia.
2 Intracorpuscular Conjugation in the Malarial Plasmodia and Its Significance. C. F. Craig, Manila, P. I.
3 What is a Poison? (To be concluded.) R. G. Eccles, Brooklyn, N. Y.
4 *Cerebral Hereditary Syphilis. W. J. Butler, Chicago.
5 Restriction of Contagious Diseases in Cities. C. V. Chapin, Providence, R. I.
6 *Ureteral Catheter and Its Importance in Diagnosis and Treatment of Kidney Lesions. L. W. Bremerman, New York.

1. **Comparative Study of Various Forms of Tuberculosis.**—Ravenel summarizes his paper as follows:

1. The division of mammalian tubercle bacilli into two types, human and bovine, first proposed by Theobald Smith in 1898, has been amply confirmed. These types have cult tinctorial characteristics by which they may The chief point of difference, however, is for greater pathogenic power of the bovine type. Bovine bacilli, however, are met which have low pathogenic power. 2. No other species of mammal has been shown to harbor a variety of tubercle bacillus so constant in its characteristics as to justify its classification as a third type. 3. Other species suffering from tuberculosis derive their infection from man or from cattle. 4. The human tubercle bacillus, as a rule, has a low pathogenic power for cattle, but cultures are not infrequently found which are virulent for the bovine race. 5. The bovine tubercle bacillus has the power of invading the human body and producing the lesions of tuberculosis. 6. We are at present unable to state the exact proportion of cases in which bovine tuberculosis is transmitted to man, but in view of the evidence at hand we must regard the disease in cattle as the source of a certain part of human tuberculosis, and any relaxation in our laws and precautions against bovine tuberculosis would be most unwise.

4. **Cerebral Hereditary Syphilis.**—Butler says that the nervous system is attacked by hereditary syphilis in a considerable proportion of cases, sometimes without cutaneous lesions, the disease remaining latent until puberty or later. The pathologic conditions include cranial osteosclerosis, periosteitis, meningitis, endarteritis, thrombosis, as well as atrophy, sclerosis and softening of the cerebral cortex. The symptoms are recurring convulsions, severe headache, worse at night, and impaired intelligence. Later the epilepsy may disappear. Hemiplegia frequently develops and the patients may become paralytic idiots. Partial motor paralyses, aphasia and disturbances of the special senses may occur. Mental deficiency, occasionally congenital, usually develops at a later period of childhood. Prognosis is unfavorable unless the condition is recognized and treated in its early stages. Congenital syphilis should be vigorously treated with mercury during the prevalence of cutaneous manifestations and, when nervous symptoms develop, potassium iodid, or if this disagrees, iron iodid, should be added.

6. **Ureteral Catheterization.**—From an experience covering several thousand catheterizations, Bremerman feels justified in saying that the procedure is not nearly so difficult as is claimed. When rigid attention is paid to technic and asepsis and the choice of a proper instrument, there need be no fear of dangerous after-complications. He says that he can not entirely agree with some of the authorities when they state that a catheter should never be inserted in the pelvis of the kidney when that organ is involved by any inflammatory process. He has yet to see any untoward conditions arise from catheterizing a pyelonephritic kidney or one affected with a chronic inflammation.

Medical Record, New York.

December 9.

7 *Certain Forms of Ocular Tuberculosis. C. S. Bull, New York.
8 Displacement of the Abdominal Organs. O. Lerch, New Orleans, La.
9 *Fresh Air and Rest in the Treatment of Pulmonary Tuberculosis. G. R. Pogue, Greeley, Colo.
10 *Reduction Treatment. J. W. Wainwright, New York.
11 Principles of Ethics of the American Medical Association. A. L. Benedict, Buffalo, N. Y.
12 Uncertainties and Fallacies in Scientific Medicine. H. B. Hemenway, Evanston, Ill.

7. **Forms of Ocular Tuberculosis.**—Bull says that tuberculosis of the conjunctiva is much more often a primary disease, the result of an ectogenic infection, even in cases in which tuberculosis has already developed elsewhere in the body, than of infection occurring through the blood. Although tuberculous disease of the conjunctiva is not often secondary to tuberculous disease in other parts of the system, it is itself liable to be the starting point of general tuberculosis. An intact normal conjunctiva, however, can never be infected. There must always be a loss of substance, usually a traumatic abrasion. Tuberculosis of the conjunctiva is more often secondary to nasal tuberculosis than primary. The symptomatology and treatment of tuberculosis in the various other anatomic regions of the eye are discussed in detail, and the author draws the following general conclusions: It is doubtful if any case of intraocular tuberculosis is ever a primary disease. In cases of doubt, or of very difficult diagnosis, the injection of tuberculin is an efficient aid to diagnosis. There is a general reaction in at least 85 per cent. of the cases, and some local reaction in about 50 per cent. As a method of treatment, both the old and new tuberculin have proved practically useless in Bull's experience. It is a remedy which needs careful watching. Surgical intervention in intraocular tuberculous conditions of the eye should seldom be done, unless there is considerable pain which tells on the patient's health, because the disease is not primary, and hence excision would remove only one focus.

9. **Fresh Air and Rest in Pulmonary Tuberculosis.**—Pogue says that much harm has been done to consumptives by the indiscriminate prescribing of fresh air, outdoor life, and exercise, without proper instructions and education of the patient, together with a consideration of the extent of the lesions present. The patient in the early stages of the disease who is told to adopt tent life, without being given definite instructions, is very apt to shut himself up tight at night in his tent, and so spends seven or eight hours a day in a closed canvas box. Patients must be kept outdoors all day long in the open air, and practically the same conditions must prevail at night, but they must be made comfortable, and be protected from cold winds, rains, and storms, and, during the summer months, from the direct rays of the sun. The beginning of the outdoor life must be gradual, without abrupt transition from the patient's usual mode of life. Similar fallacies exist in the minds of the laity, and even of the profession also, regarding the value of exercise. The patient who is told to live out of doors and "rough it" usually does not live long to carry out the injunction. Of 62 patients in various stages of the disease, whose histories are known to Pogue, who during the last five years have taken the "roughing it" cure, 43 are dead and only 2 show signs of having their disease arrested. Rest is the element it is important to secure, for usually the patient is only too apt of his own accord to take too much active exercise.

10. **Reduction Treatment.**—Wainwright says that it must always be remembered that obesity can not be successfully treated by the same or similar methods in every case. Corpulent persons, who are otherwise healthy, by careful dieting, plenty of exercise, baths, and other rational means, may reduce their superabundant adipose deposit, or at any rate may prevent an increase. On the other hand, obesity in disease is but a symptom, and the treatment of the obesity alone may, and probably will, have an injurious effect on the patient's general condition. The cause must be treated and the attempts to reduce the flesh must be governed by the disease from which the patient is suffering. Wainwright describes in detail the various measures of diet, exercise, bathing, etc., that are useful, and points out how they may be adapted to the needs of different individuals.

New York Medical Journal.

December 9.

13 *Avulsion of the Terminal Branches of the Trigeminal Nerve for the Cure of Trifacial Neuralgia. E. LaPlace, Philadelphia.
14 *Treatment of Puerperal Infections. R. W. Holmes, Chicago.
15 Note on the Spirochæta Pallida. C. Herrman, New York.
16 Federal Control of Epidemic Diseases. E. E. Field, Norfolk, Va.
17 Some Extracts from the Diaries of Bishop Nicholson. H. Barnes, Carlisle, England.
18 *Value of Meat Inspection to the Public Health. D. A. Hughes, E. St. Louis, Ill.
19 Pyelonephritis and Ulcer of the Esophagus Complicating Pregnancy. L. T. LeWald, Manila, P. I.

13. **Avulsion of Trigeminus for Neuralgia.**—La Place has devised a gradual method of avulsion whereby he has succeeded in removing a nerve from the seat of the incision to its ultimate ramifications in the skin itself. A special curved hemostatic forceps is used. The nerve is exposed and lifted from its seat. It is then clamped, but not cut; the forceps, held in the right hand, are turned very gently from left to right, winding both the proximal and remote parts of the nerve on itself. This is done very slowly and deliberately, taking as much as two minutes for one turn of the forceps; otherwise the nerve would break. The nerve gradually yields and winds itself on the forceps, slowly but steadily, and the winding is kept up until the nerve finally breaks. It takes from twelve to twenty minutes to obtain this result, and La Place considers time very essential; otherwise some of the removable filaments might be left behind, and the operation rendered in a measure incomplete. The nerve appears as a tightly wound string about the jaws of the forceps. By placing this in water and shaking carefully the nerve soon becomes limber and disentangled, showing itself in its full anatomic condition much more complete and perfect anatomically than would ever be possible by the most skillful dissection. Four patients have been treated by this method during the last two years, and pain has not returned in any case.

14. **Treatment of Puerperal Infections.**—Holmes summarizes his paper as follows:

1. The battle against puerperal infection is practically won by an adequate system of asepsis and antisepsis. True *autoinfections* very rarely arise, and usually are not of serious portent. 2. It is no more possible to operate aseptically without skilled assistants in obstetrics than in general surgery; *properly to conduct an operative case requires a full quota of assistants.* 3. Puerperal infection is not a specific disease. Diverse types of micro-organisms may be the etiologic factors, and any part of the parturient canal may be the seat of the infection. 4. To treat locally a thermal condition of the puerperium without a clear, pos[illegible] he seat of infection should be characterized as [illegible]. 5. At the present time there is absolutely no [illegible] reaching the offending germs in the uterine submucosa or muscularis. The curette can not discern the locality of the retained remnants of secundines; the finger alone can ascertain this; a placental forceps more easily, more certainly, and with infinitely greater safety, can remove them, *under guidance of the finger.* 6. It is a grave error to neglect digital revision of the uterus *after* any instrumentation for the *purpose* of cleaning the uterine cavity. 7. Nature, by supplying the reaction zone of Bumm, offers the surest safeguard to the woman; [illegible] demand the same rest for the uterus as do [illegible]re. 8. The danger of shreds in the uterus is [illegible] as regards their rôle in infections. 9. Active operative measures endanger the life of the woman doubly or trebly to the extent the expectant plan does. 10. The use of saline purges, administration of ergot, hydrastis, etc., removes much of the danger or necessity for active therapy; in a day or two the danger is often *past*, for, like a baby, the lying-in woman is subject to evanescent febrile elevations.

18. **Value of Meat Inspection.**—Hughes discusses the relation of animal disease to human disease; the methods of meeting these dangers, and what meat inspection as carried on by the government means to the public. Hughes says that at present the only way for people to protect themselves against diseases communicable from animals and to guard themselves against diseased animals sold in the local markets, killed, prepared for the trade without expert government inspection, and foisted on them as wholesome, is to take advantage of the wisdom of the federal law. If they refuse to purchase meats which have not passed the government inspection, their protection is assured. The government has recognized the danger arising from diseased meats; it has devised methods to meet the danger; it assures the people of safety, provided they consume meats guaranteed to be free from disease.

Medical News, New York.

December 9.

20 *Etiology of Syphilis. S. Flexner, New York.
21 Plea for the More Careful Examination of Diseases of Women by the General Practitioner. W. E. Darnall, Atlantic City, N. J.
22 *Thyrotomy vs. Laryngectomy: Notes on the Frequently Malign Nature of Chronic Hoarseness. C. Jackson, Pittsburg, Pa.
23 Tuberculous Kidney. J. B. Clark, New York.
24 *Simple Device for Ophthalmoscopic Work. Devised Especially to Meet Conditions Existing on Board Ships, but Capable of General Application. R. E. Riggs, U. S. A.
25 *Relation of Incontinence of Urine to Neurasthenic Symptoms, and Its Treatment by the Isolated Induction Shock. A. D. Rockwell, New York.
26 *Treatment of Conditions Resulting from Chronic Anterior Urethritis. W. D. Trenwith, New York.
27 *Improved Head-Holder for the Removal of the Human Brain. B. B. Stroud, Ithaca, N. Y.
28 *Syphilitic Fever. J. A. McKenna, Philadelphia.
29 Relapsing Fever. Koch, Hongkong, China.

20. **Etiology of Syphilis.**—Flexner reviews the subject generally, considering more particularly the causal relation of the pallida to syphilis.

22. **Thyrotomy versus Laryngectomy.**—Jackson calls attention to the frequently malign nature of chronic hoarseness, and urges the necessity for early diagnosis while the case is still operable by thyrotomy, whereby not only the life, but the voice, the comfort, the happiness and the usefulness of the patient may be saved. If the diagnosis be made late, as it usually is, total laryngectomy offers the only hope of prolonging life. Speaking of the endo-laryngeal operation, he says that he considers his years of training to acquire endolaryngeal skill an utter waste of time so far as the surgery of malignant disease is concerned. It is ten times worse than letting the growth alone, for while failing to extirpate radically it induces local spread and metastatic deposit. He concludes as follows: 1. The patient with cancer of the larynx must have his disease discovered early, else a cure is well nigh hopeless. 2. If discovered early the comparatively slight operation of thyrotomy will cure. 3. If discovered late, total or partial laryngectomy will probably prolong life for a variable period, but recurrence is fairly certain and the short extension of existence lacks many pleasures and comforts. 4. The early curable stages of laryngeal cancer are characterized by nothing but hoarseness, which may disappear and recur. Cough, odor, pain, odynphagia, glandular involvement, external swelling, emaciation, cachexia, etc., are present only after the curable stage is passed. 5. The curable case may come in "to get something for a cold that he can not shake off," without any idea of a serious condition, and throws the physician off his guard.

24. **Simple Device for Ophthalmoscopic Work.**—In order to get a satisfactory light under the varying conditions which confront any one trying to do eyework outside of a well-equipped office, Riggs envelopes an ordinary 16-candle power frosted electric bulb in a thin sheet of lead. With a jackknife and a pair of pincers the sheet is cut and molded to the general shape of the bulb. In this way practically all light is shut out except that which passes through a spherical window about one inch in diameter, cut into the shield after it is applied. Thus with a little ingenuity, and in a few moments, any one who cares to try it, and has electrical attachments at hand, can construct for himself a portable and satisfactory light, which may be suspended from any convenient point and allowed to take a position just behind and to the outside of the ear on the side under examination. The light obtained is soft and equally distributed, and one is scarcely bothered at all by the corneal reflex. The background of the eye is distinctly though softly illuminated, and besides giving the observer an almost normal image, it inflicts on the patient a minimum amount of discomfort. Riggs says that with this arrangement one can easily observe the fundus without the use of a mydriatic, nor is it necessary to have a perfectly dark room. It also gives an equally good view in work about the ear, nose or throat.

25. **Electricity in Urinary Incontinence.**—Rockwell cites the case of a girl aged 13 who was treated successfully by the isolated induction shock. The positive electrode was applied to the sacral region, and the negative, consisting of an olive-shaped electrode, was introduced through the urethra to the sphincter muscle. The isolated induction shock was then administered at the rate of one in five seconds, or about twelve shocks a minute. The applications were repeated every other day for a time, and then less frequently. The character of the treatment so far as concerned rapidity of interruption was approximately adhered to throughout the whole course. The patient finally recovered, but the progress toward complete recovery was neither rapid nor constant, some thirty-five applications having been administered through a period of five months. During this period she had alternations of comparative freedom from attacks and their recurrence with ordinary frequency, but the progress was steadily upward.

26. Treatment of Chronic Urethritis.—Trendwith emphasizes the necessity of making an exact diagnosis and of determining the exact status of the case. As a routine measure he advocates the examination of the prostate and seminal vesicles. The treatment should be general as well as local. The local treatment should be governed entirely by the reaction produced by the remedies employed. The urine should be examined at each visit, and no physician should be satisfied to call a patient cured simply because the discharge has ceased. A cure may be said to have been effected when there is no longer any discharge and when the urine is free from pus, shreds or threads, and remains so. Local treatment should be discontinued, but not so the general treatment. The author's method of treatment is described in full.

27. Improved Head Holder for Removal of Brain.—The apparatus devised by Stroud consists of a base made of steel tubing, to which is joined a movable upright that can be fixed rigidly at right angles to the base. The upright bears movable jaws to grasp the head on each side and spurs to enter the auditory meatuses; also an adjustable support for the chin. The head is held firmly and both of the operator's hands are free. The apparatus is finished in white enamel and nickel; when not in use it folds flat, so that it occupies little room. The subject lies on the belly, the head being supported and firmly held by the adjustable clamps at the sides and chin. The base of the cranium is horizontal, and serves as a shallow tray in which the brain is supported while the cranial nerves, arteries, spinal cord and membranes are being severed. Thus it is possible to secure a perfect anatomic specimen. The cranium is opened by making a circular cut with the saw about one-half inch above the orbital prominence and the external occipital protuberance. The calvarium is removed either entire or in two pieces by making a second sagittal cut, about one-half inch from the median line over the top of the head to meet the horizontal line. Adhesions between the calvarium and dura are separated by means of a long flexible spatula. The following liquid has been employed by Stroud for a number of years to preserve brains, and has given excellent results:

℞.	Sodium acetate	℥xiv	400
	Sodium chlorid	℥xiiss	350
	Formaldehyd 40 per cent............	fl. ℥ii	60
	Alcohol 95 per cent..............	fl. ℥xlvii	1,400
	Water	fl. ℥liv	1,600

The sodium acetate and sodium chlorid are dissolved in fifty-four ounces of water by aid of heat. The solution is filtered and cooled and forty-seven ounces of 95 per cent. alcohol and two ounces of formaldehyd are added. This quantity is sufficient for one human brain. If the specimen is much stained by hemorrhage, the blood may be removed by soaking for a few hours in a solution of salt and water. Ordinarily this treatment will not be required. Brains should remain in the solution for from ten to fifteen days, but a longer period is not harmful. Then they may be put into 75 per cent. alcohol, which should be changed once or twice. They may remain indefinitely in 75 per cent. alcohol, or preferably be put into 82 per cent. alcohol. The advantages claimed for this solution are: 1. The mixture is simple and may be prepared at a moderate cost, about 14 cents per liter, alcohol free of tax. 2. It has about the same specific gravity as that of the brain, which should float without support midway between the top of the liquid and the bottom of the jar. Rarely a brain may sink to the bottom; in this case more salt is added. If it floats on the top, 50 per cent. alcohol is added until it sinks below the surface. 3. The specimens have a more natural appearance than when some other preservatives are employed. 4. There is no distortion. 5. It appears to give good results for brains which are very soft from decomposition. In these cases the pia can not be easily removed. 6. Plexuses and membranous parietes are preserved. 7. The alba and cinerea are visibly differentiated. 8. Brains are moderately flexible, so that fissures may be explored. 9. Tissue hardened in it may be used for histologic study.

28. Syphilitic Fever.—According to McKenna, the varied symptoms which cloud the diagnosis of syphilitic fever and make its recognition difficult, may be ascribed to so many of the febrile diseases that the failure of the physician at once to classify properly a case in which syphilis is the cause, is both natural and pardonable. McKenna says that if evidences of syphilis were more often looked for in continued fevers of a doubtful character, or, as a chance, specific treatment given the patient, doubtful diagnosis would frequently be speedily made definite and the health of the patient and the reputation of the physician advanced in a gratifying manner.

Boston Medical and Surgical Journal.

December 7.

30 *Operative Treatment of Old Fractures at Lower End of Radius. H. A. Lothrop, Boston.
31 Gastric and Duodenal Ulcer. E. M. Buckingham.
32 *Case Illustrating the Value of Persistent Conservatism in the Treatment of Ununited Fractures of the Lower Leg. G. H. Monks, Boston.
33 Tuberculosis and Related Diseases of the Lungs in the Medical Out-Patient Department. W. H. Robey, Jr., and R. C. Larrabee, Boston.
34 Study of the Gastric Contents in Twenty-one Cases of Tabes, in Three Cases During Gastric Crises. M. P. Smithwick.

30. Fractures of Lower End of Radius.—Lothrop summarizes his views as follows:

1. Fractures at the lower end of the radius are very common lesions. As a result of neglect on the part of the patient, or oversight or otherwise on the part of the physicians, the final result is frequently unsatisfactory, either from the standpoint of function, or appearance, or both. 2. Appropriate treatment applied early should give as good a result as could be obtained in any given case; therefore, subsequent operation is not indicated. 3. In cases in which the final result [illegible] surgical interference of some sort is usually [illegible] the first three weeks whatever union has tak[illegible] e broken up by manipulation under an anesthetic and suitable apparatus should then be applied as for a recent fracture. 5. After the third or fourth week the best results are obtained by means of an osteotomy in the line of fracture, followed by treatment appropriate for a recent fracture. 6. In fractures which have existed for from two to six months osteotomy should always improve the position and frequently improves the function, although special consideration should be given each case. 7. After the expiration of six months it is more difficult to correct the deformity. The backward and upward displacement of the lower fragment can always be overcome, but the correction of the lateral displacement is more difficult and usually requires an osteotomy of the ulna. The function is rarely improved at this time. Hence, interference should be limited to selected cases.

32. Conservatism in Treatment of Ununited Fractures.—Monks cites a case for the purpose of showing that union is possible in ununited fractures of the shafts of the bones of the lower leg after very long periods of time. In this case union took place about two years after resection of the ends of the fragments, and about three years after the original injury. Even in cases in which the bones are considerably shortened (it was estimated that the shortening in this case was about two inches), the muscles will contract sufficiently to enable the patient to balance himself on the injured leg.

St. Louis Medical Review.

December 2.

35 Immunize the Stegomyia, Anopheles and Culex. C. H. Hughes, St. Louis.

Lancet-Clinic, Cincinnati, Ohio.

December 2.

36 Diagnosis and Treatment of Infection of the Accessory Mucous Cavities of the Respiratory, Digestive and Genitourinary Tracts. B. Holmes, Chicago.
37 *What is the Present Conception of Bright's Disease. G. W. McCaskey, Ft. Wayne, Ind.
38 *Sprained Ankle. R. Carothers, Cincinnati.
39 Contagious Diseases from the Viewpoint of the Sanitarian. B. F. Lyle, Cincinnati.

December 9.

40 Visceral Ptosis—Its Surgery. E. Harlan, Cincinnati.
41 Simple Eye Conditions that Should be Familiar to Every Physician. M. D. Stevenson, Akron, Ohio.
42 Minor Matters. W. Scott, Loveland, Ohio.
43 Syphilis Insontium. E. H. Shields, Cincinnati.

37.—See abstract in The Journal, Nov. 4, 1905, page 1435.

38.—Id.

Surgery, Gynecology and Obstetrics, Chicago.

November.

44 *New Method of Arthrotomy for Old Dislocations of the Shoulder, Based on Experience in the Radical Breast Removal. E. W. Andrews, Chicago.
45 *Indications for and Methods of Artificial Dilatation of the Cervix Uteri. L. Knapp, Prague.
46 Technic of [illegible] Dilatation of the Cervix According to Bossi. [illegible]
47 Surgical Pat[illegible] Mammary Tumors. W. J. Stone, Toledo, Ohio.
48 Case of Cesarean Section Performed Under Relative Indications. J. C. Hoag, Chicago.
49 Case of Chorioepithelioma Following Hydatidiform Mole. W. [illegible] Leary, Boston.
50 [illegible] to Prognosis and Treatment of Sarcomata [illegible] A. Besley, Chicago.

51 *Operative Treatment of Retrodisplacements, with a New Operation; Intramural Transplantation of the Round Ligaments. C. W. Barrett, Chicago.
52 *Phimosis; Its Treatment by a New Technic. V. D. Lespinasse, Chicago.
53 *When Prostatotomy Instead of Prostatectomy is Indicated. C. E. Barnett, Ft. Wayne, Ind.

44. **New Method of Arthrotomy.**—The steps of Andrews' operation are as follows: 1. An incision is made from the clavicle downward across the front of the shoulder into the axilla. The cut is large, 50 per cent. longer than by the older methods. 2. The pectoralis major is cut near its insertion, leaving about 1 cm. attached to the bone. This muscle, being cut transversely, is laid over with the skin flap, thus exposing the axillary vein and the brachial plexus. The pectoralis minor is not cut, unless the head of the humerus and the vessels have been forced under it. 3. Careful examination of the vessels, if they cross the tuberosity or head of the humerus, is now made. The artery can not be seen readily, except by drawing aside the vein. On account of this deep position, it is more often involved in the adhesions, and has been the vessel usually torn. Great care and plenty of time are needed to separate these vessels when they or their large branches—e. g., subscapular or circumflex—are found adherent. No efforts at reduction should be made until the vessels and large nerve trunks are isolated and pulled aside. It must be borne in mind that some of the reported injuries of the vessels are due to projecting fragments or spicula on the humerus. 4. The forearm should now be flexed on the arm as a lever, and an assistant should rotate, and make traction, when the fibers of the adhesions will be seen and heard to tear gradually, so that the range of motion increases. Andrews says that this part of the work should be intrusted to some one of experience and judgment in joint work, as everything depends on using a sufficient, but not a dangerous amount of force. The operator, while this is going on, should clear the socket of any granulations and cut and nick such bands as refuse to yield after hard stretching. He should search for the lumen of the shrunken capsule. The head and glenoid cavity soon approach each other, the operator tilting the scapula toward the head of the humerus, and giving directions simultaneously as to reflexing, extending, abducting and rotating the limb, as he sees fit. The operator should not attempt this part himself, ordinarily. At the last moment the head is apt to take a subglenoid position and refuse to ride over the lower rim of the socket. Before cutting the ligaments or sclerosed muscles more widely, as one is tempted to do, if a blunt hook or retractor be made to pull the upper end of the humerus straight away from the body, the head can sometimes be dragged over the lip of the socket by a smart pull at the critical turn of the manipulation. Once in place, the bone can usually be held, although the capsular ligament is far from being intact; sometimes, in fact, has lost its identity in a mass of fibrous tissue. The arm should now be kept against the body until bandages are on. 5. The pectoralis major, and, if cut, the minor, should now be reunited by the Harris tendon suture method, and the skin closed with separate suture. Drainage should rarely be dispensed with. Andrews' operation is invariably a bloody one, if the dislocation is of long standing and the adhesions are firm. Good drainage for a few days prevents infection, which can easily take place with large joint surfaces bathed in wound secretion. Andrews concludes as follows: 1. It must be considered established that great force is never justifiable in old shoulder dislocations. 2. Few cases can be left unreduced on account of pain and pressure symptoms on the brachial plexus. 3. Resection is more satisfactory, but not ideal or wholly safe. 4. Arthrotomy by the old incisions is tedious, and never has been widely practiced, but has shown good results. 5. Arthrotomy by Andrews' method is simplified and made quicker, as well as safer. It would possibly be as safe as resection, and much more ideal in results.

45. **Artificial Dilatation of Cervix Uteri.**—Knapp reviews the indications and the methods employed for artificial dilatation of the cervix uteri without offering anything new.

51. **New Operation for Correcting Retrodisplacements of Uterus.**—To secure all the advantages of the Alexander operation, and yet to have an operation which could be combined with the median incision and still avoid the creation of pathologic conditions, Barrett advocates the following procedure: The abdomen is opened in the median line, through an incision from one and one-half to two inches in length. Intra-abdominal complications are dealt with. The round ligaments are picked up with the author's rubber-jaw forceps, and a control ligature is thrown around each ligament, from two and one-fourth to two and one-half inches from the angle of the uterus. If they are exceedingly well developed, a longitudinal slit is made over the ligament and the peritoneum not included. The edge of the aponeurosis over the rectus muscle is now grasped close to the lower angle of the wound, and curved ligature forceps are carried between the aponeurosis and the rectus muscle, outward to the natural exit of the round ligament, the internal ring, where the forceps is guided into the abdomen by sight or by means of one or two fingers through the abdominal incision as a guide. It is not difficult to have the forceps follow the round ligament subperitoneally to the control ligature. The forceps now grasp the control ligature, and it is withdrawn, and along with it is a loop of round ligament. Each loop of round ligament, while being held by the control ligature, is sewed to the under side of the aponeurosis with catgut, about one inch from the median line, and should the loops prove long enough, as they frequently do, they are sutured together in the median line over the recti muscles. The round ligament runs from the uterus to its normal exit, the internal ring, then under the aponeurosis to the lower angle of the abdominal incision, close to the symphysis pubis, to the under side of which aponeurosis it is attached one inch from the incision. The ligament now retraces its steps to the internal ring, from whence it follows its normal course to the labium majus. This leaves no opening for strangulation of the bowel. The ligament leaves the abdomen at its normal place and utilizes the normal structures as a pulley for the round ligament. The uterus is now held by the very best part of the round ligament, a ligament which has capacity for evolution during pregnancy and involution thereafter. The nature of the operation has led the author to term it "intramural transplantation of the round ligaments." This operation has seemed to present the following advantages: 1. It may be employed where there are intra-abdominal complications of any extent, and through the best possible opening for dealing with those complications. It is easy of execution through even a very small opening. 3. It creates the least possible pathology, forming no new ligament. 4. It utilizes the very best part of the round ligament, acting through the internal ring. 5. It has shown the highest efficiency in holding the uterus forward and yet allowing the normal range of movement.

52. **New Operation for Phimosis.**—Lespinasse has devised what he calls the bloodless cuff operation. Although the operation is not applicable in inflammatory cases, nor is it applicable to infants, it is still said to possess points of advantage and distinction. There is practically no hemorrhage; the postoperative edema is absent or very slight; it does not entail detention from business, and it removes the wound a goodly distance from the urinary meatus, hence it is easy to keep it uncontaminated. The cosmetic result is excellent. The frenulum is first cut from the glans down until the perifrenular pockets are obliterated and the frenular region is smooth. If the frenulum is thick, it is best to leave a little flap from one of its sides to cover in the defect. If short and thick the area is left to granulate, which it does very quickly. The next incision is circularly around the shaft of the penis through the skin only and paralleling the sulcus about ½ cm. behind it, being careful to avoid the veins. Next a similar incision is made at an equal distance behind the sulcus and paralleling it through the mucous membrane only, being careful to avoid the veins here also. When the prepuce can not be retracted the skin incision is made and the dissection is started from it as usual. As the mucocutaneous junction is approached the stenosis is relieved and the prepuce can be retracted. The mucous membrane incision is made and continued as ordinarily. The distal edge of the skin incision is caught and dissected off from the fascia, keeping very close to the skin. It is a matter of no consequence if the skin is nicked, while it is

a serious slip if some of the large veins are nipped. The incision is continued to the mucous-cutaneous junction, then the prepuce is retracted and the dissection started anew on the proximal side of the mucous membrane incision, continuing it till it meets the skin incision. The cuff is slipped off the penis and the cutting part of the operation is completed. If the incisions have been properly placed the two cut edges lie accurately fitted to each other and only need to be sutured. To obviate the tendency of the skin to in-roll, Lespinasse advises placing, first, a continuous suture of absorbable material very close to the edge of the incision; second, an interrupted suture of a stiff, non-yielding material, as silkworm gut, placed far back and ends cut long, thus preventing in-rolling by its stiffness and bridging action; or the elevation of the cut edges like the sides of a tent with a suture clamp to hold them in place. A gauze strip about 9 inches long and 1 cm. wide is wrapped very tightly around the penis, covering the wound. What is desired is pressure to the limit oozing and edema. Over the gauze a narrow and snugly fitting bandage is applied. A large bandage is passed around the waist, and from this a T is dropped down to the penis, having this T 4 inches wide at least, and long enough to reach the scrotum. The penis is placed upright against the abdomen and the T is so regulated that it will retain it there. The glans is covered with a piece of gauze heavily smeared with zinc salve or sterile vaselin, the patient being instructed to replace it after each urination. If the glans swells and pains because of the constriction of the dressing, gentle, firm pressure with the thumb and index finger will reduce it and quiet the discomfort. The dressing must be changed in twenty-four, or at the most thirty, hours. The gauze strip must be removed or markedly loosened by that time, its function of limiting edema and serious extravasation having been fulfilled and further action would be harmful, possibly causing gangrene.

53. **Prostatotomy versus Prostatectomy.**—Unless the bladder, ureters, kidneys are water-logged, as it were, with toxic material, Barnett considers prostatectomy practically devoid of danger; but when there is marked disability, albuminuria, casts, etc., he considers prostatotomy indicated. After drainage has relieved the body of its poison, a prostatectomy can be done at a second sitting, if necessary, with less danger.

Columbus Medical Journal, Columbus, Ohio.

November.

54 *Observations on Asepsis in General Surgery. W. J. Means, Columbus.
55 Predisposing and Acquired Characteristics of the Alcohol and Drug Habitué. C. D. Mills, Marysville, Ohio.
56 Puerperal Eclampsia. T. L. Cooksey, Wilmington, Ohio.
57 Acne. E. J. Emerick, Columbus.
58 *New Hemorrhoidal Clamp. E. A. Hamilton, Columbus.
59 Proctoscope and Colonoscope in the Diagnosis and Treatment of Diseases of the Large Intestines. W. Teachnor, Columbus.

54. **Asepsis in General Surgery.**—After a careful study of the different methods of sterilization of hands and the wound area, Means has come to the conclusion that a strict aseptic method is the only one on which the surgeon can depend primarily, followed by the use of chemical agents for their inhibitory action. This method consists in thoroughly washing the hands in pure soap and sterile water, treating the nails and rinsing the surface with clean water to remove the soap; then the hands and arms may be submerged in a 1 to 3,000 bichlorid solution or a 1 per cent. carbolic acid solution. The management of the wound area is along the same lines.

58. **New Hemorrhoidal Clamp.**—The clamp devised by Hamilton does away with the tissue which has been clamped and in which sloughing would follow if it was allowed to remain. This clamp consists of slotted blades, 2 inches in length, the blades being at right angle to the handle. The under surfaces of the blades are grooved to a depth even with the upper surface of the slots. This groove is wide enough to exert no pressure of consequence on the base of the tumor. The under surfaces of the blades are rounded to facilitate suturing, and the heel of the instrument is properly smoothed off. The upper portion of the clamp blades above the slots and the groove come together with serrated edges, which give as firm a grasp of the tissues as is needed. The use of the instrument is simple. The usual preliminaries of stretching the sphincters and cleansing the field are attended to; the tumors are brought down to suit the operator's convenience; the clamp is applied parallel to the long axis of the gut and with the heel of the instrument toward the center of the anal orifice; proper pressure is made by the clamp blades; sutures are then passed under the instrument, its rounded under surface felicitating this procedure; a blunt-pointed bistoury or thin scalpel is inserted in the slots and the hemorrhoidal area separated thereby. The clamp with the hemorrhoid is removed and the sutures tied. Either continuous or interrupted sutures are used, usually of catgut of a size suited to the exigencies of a given case. The idea in this instrument is that the lips of the cut surface have not been injured by the crushing of the clamp blades, consequently if proper sterilization of the field has been carried out primary union may be expected here as in any part of the body; and if primary union fails to result, there is no sloughing mass which has to be cared for and healing is advanced by just so much.

Kansas City Medical Index-Lancet.

November.

60 Ulcer of the Stomach. S. C. James, Kansas City.
61 Peculiar Quinin Idiosyncrasy. F. T. Van Eman, Kansas City.
62 Lectures on Nervous and Mental Diseases. J. Punton, Kansas City.
63 Maternal Feeding. J. W. Kyger, Kansas City.
64 Papillomata of the Larynx. W. M. Reed, Kansas City.

Medical Fortnightly, St. Louis.

November 10.

65 Typhoid Fever and Its Treatment. J. A. Simpson, Harriman, Tenn.
66 Diagnosis and Treatment of Incipient Skin Cancer. F. B. Wynn, Indianapolis.
67 Internal Antiseptics. A. L. Benedict, Buffalo.

Journal of the Kansas Medical Society, Lawrence.

November.

68 Treatment of Deformities. J. Naismith, Lawrence, Kansas.
69 My First Fractures. J. D. Clark, Wichita.
70 Therapeutic First Principles. G. H. Hoxie, Kansas City.
71 How to Produce Acid-Fast Bacilli. H. G. Graham, Chicago.
72 Scientific Basis of Medicine. J. T. Axtell, Newton.

Medical Standard, Chicago.

November.

73 Professor Senn and His Clinic. B. Robinson, Chicago.
74 Nicholas Senn, The Man. F. Henrotin, Chicago.
75 Surgical Clinic. N. Senn, Chicago.
76 Dr. Senn's Clinic from a Visitor's Standpoint. O. W. MacKellar, Chicago.
77 Surgical Clinic Held by Prof. Nicholas Senn. G. E. Papot, Chicago.

Journal of the Minnesota Medical Association and the Northwestern Lancet, Minneapolis.

November.

78 Mammary Carcinoma. W. L. Rodman, Philadelphia.
79 End-Results of the Operative Removal of Malignant Growths. A. MacLaren, St. Paul.
80 Shock and Its Treatment. G. R. Curran, Mankato, Minn.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

November 25.

1 Dyspepsia. R. Hutchinson.
2 Education of Physicians in London in the Seventeenth Century.—The Fitz-Patrick Lectures for 1905. N. Moore.
3 *Simple Stricture of the Common Bile Duct Treated by a Plastic Operation. B. G. A. Moynihan.
4 Case of Suppurative Cholangitis Following Cholelithiasis and Cholecystitis. G. M. Harston and W. Hunter.
5 *Portal Pyemia and Pylephlebitis. W. L. Brown.
6 Observations on the Opsonic Index of Patients Undergoing Sanatorium Treatment for Phthisis. H. Meakin and C. E. Wheeler.
7 *A Hitherto Undescribed Change in the Urine of Patients Suffering from Nephritis. M. A. Ruffer and G. Calvocoressi.

3. **Plastic Operation for Stricture of Common Bile Duct.**—Moynihan reports a case of gallstones in which the common duct was obstructed by a cicatricial stricture which was evidently the result of an old ulcer. After the stones had been removed from the duct the second portion of the duodenum was mobilized after the manner of Kocher. The stricture, which had been freely divided by a vertical incision, was then abolished by the approximation of the edges of this incision in a transverse direction. A through-and-through suture of catgut was used, threaded on an intestinal needle. The transverse wound was not completely closed, sufficient room being left for the introduction of two rubber tubes, one of which

passed upward into the dilated common duct and the other downward toward the ampulla. Each tube was fixed with a single catgut stitch. The tubes were removed on the eleventh day. For four weeks all the bile passed through the wound. Some pancreatic juice also escaped in this way, as was shown by the digestion of the skin around the wound. In the fifth week bile began to pass into the intestine, and in the ninth week the wound was entirely closed. The patient was sitting up in bed from the first, and was allowed to get up in the third week.

5. **Portal Pyemia and Pylephlebitis.**—Brown has collected 48 cases, in 7 of which (14.6 per cent.) the occlusion was the result of sepsis. He found that in some cases of portal pyemia obstruction symptoms occur, but in the majority of cases they do not. Their absence, however, can not be regarded as excluding pylephlebitis. Their presence is usually the result of a firmly adherent clot in the portal vein or its annexes, rather than of the soft, disintegrating, purulent thrombus. The commonest place for the adherent clot to form is at the junction of the superior mesenteric and splenic veins. He concludes as follows:

1. A collection of pus within the portal zone is the principal cause of portal pyemia. Ulceration of the alimentary tract is only important as being a frequent precursor of such a collection.
2. Signs of portal obstruction are the exception in suppurative pylephlebitis.
3. There are no signs by which we can distinguish with certainty cases of portal pyemia with suppurative pylephlebitis from those in which the vein is not involved.
4. In "adhesive pylephlebitis" the essential feature is the occlusion of the vein, and this may be produced by a variety of causes, among which sepsis is not an infrequent one.
5. Therefore, if our terminology is to accord with pathological conditions so far as they can be determined during life, we ought to speak of two conditions, portal pyemia and portal occlusion, remembering that we may meet with cases of portal pyemia with occlusion.

7. **The Urine of Nephritics.**—The result obtained by Ruffer and Calvocoressi, in experiments made to ascertain whether pathologic urines contain more or less lysogen than normal urines, shows that the physiologic action of the urine of cases of chronic and diphtherial nephritis, in the large majority of cases, is very different from the action of the same quantity of urine of healthy human beings.

The Lancet, London.

November 25.

8 *Treatment of the Attack in Spasmodic Asthma. A. Morison.
9 *Traumatism as an Exciting Cause of Acute Appendicitis. F. A. Southam.
10 Multiplicity of Complements in Bacteriolytic Sera. W. H. C. Forster.
11 Pathology, Affinities and Treatment of So-called Bleeding Polypus (Discrete Angeioma) of the Septum. L. H. Pegler.
12 *Ethyl Chlorid as an Anesthetic for Infants. F. Murray.
13 Two Cases of Spasm with Hypertrophy of the Pylorus in Infants Cured with Opium. N. Neild.

8. **Treatment of Attack in Spasmodic Asthma.**—Morison describes his treatment of the attack in spasmodic asthma as carried out frequently and always with success. The principle of the treatment is to aid the patient to empty the chest of air. With one hand on the back and the other on the front of the chest, Morison empties it at the end of each inspiration. After several maneuvers of this kind relief is given. Even in old people with stiffened chests he has found compression by one hand over the thorax and the other over the epigastrium, the lower ribs, or preferably over the right hypochondrio-epigastric region, give relief from the thoracic anxiety attending the fixation of the chest, which is chiefly inspiratory. It is unnecessary to give any drugs.

9. **Traumatism as Cause of Appendicitis.**—Southam cites 4 cases illustrating the fact that a direct injury may excite an attack of acute appendicitis when a concretion is present.

12. **Ethyl Chlorid Anesthesia for Infants.**—Murray regards ethyl chlorid as one of the best means of producing anesthesia of from five to fifteen minutes' duration in infants and older children. She has administered ethyl chlorid to 150 infants under a year old. The youngest patients were five and fourteen days old respectively, and a large proportion of them were from five to seven weeks old. Many of them had not undergone any preparation at all, and the only precaution taken with regard to the others had been to withhold food for some hours that morning. The use of ethyl chlorid in prolonged operations is not recommended, partly owing to the waste of the drug by evaporation, and partly because it has no special advantage over chloroform and the A. C. E. mixture when a narcosis of from twenty to forty minutes is required. Murray has found ethyl chlorid very suitable for tenotomy, circumcision, empyema, and the removal of adenoids, cysts, polypi, dermoids and nevi. Murray says that the simplest form of inhaler is the best to use; a useful one consists of an ordinary shaft on to which the face-piece and bag fit; the free end is closed by a stopper attached by means of a fine chain and the anesthetic is sprayed through this opening. To the end of the shaft which enters the bag two curved wires are fitted, so adjusted as to make a little cage in which a small sponge is placed. When ethyl chlorid is sprayed into a bag of the usual size, part of it vaporizes and the other part tends to fall to the bottom and to vaporize as the patient breathes in and out. A young infant does not make a sufficient respiratory effort to produce the necessary amount of vaporization and for this reason induction is often unduly delayed and the anesthesia is not smoothly maintained. The sponge inside the bag intercepts the anesthetic and by holding it nearer to the child obviates these defects, making it possible for the patient to inhale it more rapidly and without effort. The same result is obtained if a bag of about half the usual size is employed, but it is not always convenient to change the bag between the cases. A celluloid face-piece is generally preferable since it not only permits the anesthetist to observe the patient more readily, but also resists the action of the vapor better than rubber. For infants of a few days or a few weeks old Murray commences by spraying 3 c.c. into the inhaler; for those of six months and upward she gives 5 c.c. at once. The mask is then approached to the face but not pressed against it, so that the baby has several breaths of air and vapor mixed; it is then more closely applied so as to exclude all air except that which is already in the bag, and in a few seconds the child becomes unconscious. When one is sure that the anesthesia is deep, and the surgeon has made his incision or begun the operation, the mask should be removed from the face and a few breaths of air should be given. If it is desired to continue the period of narcosis for some time the mask should not be kept off for long, but only raised occasionally for air. If the respiration indicates the lightening of the narcosis a few more cubic centimeters may be added to the bag; on these lines the anesthesia may be prolonged indefinitely.

Glasgow Medical Journal.

November.

14 Case of Precocious Development. J. Devon.
15 *Treatment of Smallpox by Ichthyol. A. Love.

15. **Ichthyol in Smallpox.**—Love describes the results obtained in the treatment of smallpox by ichthyol. The ichthyol was given in doses of 40 grains, administered in the form of chocolate-coated tabloids, three times in the twenty-four hours. In a certain proportion of cases ichthyol was also applied externally in the form of an ointment. The action of the drug was observed in 100 patients, of whom 67 were males and 33 were females, their ages ranging between 3 and 60 years. The treatment was commenced as soon as the patient was admitted to the ward, and was continued until he was sufficiently convalescent to leave his bed. Of the total cases treated 6 patients (or 6 per cent.) died, but the cases were not selected in any way with regard to severity, although it is probable that the action of the drug would have been better estimated in cases of considerable severity than in those of a milder character. In 30 out of the total nuhmber of cases the eruption was sparse; in 63 it was abundant, and in 5 it was confluent, while in 2 it was hemorrhagic in character. With regard to vaccination, 4 patients were unvaccinated, but in two of these vaccination had been attempted unsuccessfully in infancy. In none of the cases observed was there any indication that the drug influenced the disease as regards either its course or severity. That pustulation was not affected in any way is shown by the fact that nearly all the cases ran a full course, and by the incidence of abscesses in some during convalescence. The course of the eruption, as well as the complications and sequelæ, were precisely those seen among smallpox patients who have not been subjected to any special treatment. The two patients in whom the eruption aborted were

persons who had been well vaccinated in infancy, a considerable degree of immunity being thus indicated, and whose eruption at the time of admission was of a small, dry character usually associated with a modified development of the rash. In a certain proportion of the cases ichthyol was applied externally in addition to the internal administration. The upper limbs were usually chosen for this purpose, because of their accessibility, and the ichthyol was applied by wrapping the arm in lint which had been thickly smeared with the preparation. The effects of this external application were as disappointing as those resulting from the internal administration; indeed, in most cases the stages of maturation and crusting were delayed on the limb treated, the pustules remaining soft and crusts forming tardily.

Annales des Mal. des Org. Gén.-Urin., Paris.

Last indexed page 1830.

16 (XXIII, No. 13.) Etude de l'histologie pathologique des suppurations testiculaires. E. Dalous.
17 (No. 14.) La cystoscopie à vision directe. G. Luys.
18 Recherches sur la sécrétion et l'excrétion des reins malades (diseased kidneys). F. Cathelin.
19 (No. 15.) Les blenorragies aberrantes. Jullien.
20 Varicocèle et obsession. L. Picqué.
21 (No. 16.) Inflammatory stricture of Posterior Urethra.—Rétrécissement inflammatoire de l'urèthre postérieur. E. L. Keyes (New York).
22 Nouvelle méthode de cystoscopie. Cystoscope à air et a vision directe, sans partie optique avec lampe renversée au plafond. F. Cathelin. Id. M. Weinrich.
23 (No. 17.) *De la prostatectomie secondaire à la cystostomie. André.
24 *La fibrinurie. L. Imbert.
25 (No. 18.) *Operative Injury of Ureter.—Traitement des blessures de l'uretère au cours des interventions chirurgicales. F. Bernasconi and S. Colombino.
26 Les fistules urétro-rectales consécutives à la prostatectomie [illegible] (Lyons).
27 (N[illegible] sur les lymphatiques de la prostate [illegible] (Naples).
28 L'urotropine et l'helmitol. Leur action thérapeutique d'après les résultats des recherches expérimentales et des observations cliniques. F. P. Guiard. (Commenced in No. 7.)

23. Prostatectomy Secondary to Cystotomy.—André has performed prostatectomy in 24 cases, and in 3 it had been preceded by cystotomy. The intervals were two months, one year and two years respectively. After the bladder had been treated the patients regained strength so that an operation on the prostate became practicable. The general health forbade it at first. His patients were from 65 to 70 years old.

24. Fibrinuria.—Imbert reports 3 cases in which the urine contained fibrin or fibrinogen, independently of hematuria or chyluria. He has been able to find only 9 similar cases reported in the literature. The fibrinuria seems to be connected with some kidney affection, but the latter is extremely variable. Treatment is purely symptomatic, hot baths, injections, laxatives. A milk diet and potassium oxalate did not seem to produce any effect in his cases.

25. Treatment of Operative Injury of the Ureter.—Experimental research on dogs has shown that excellent functional results can be obtained from an anastomosis between the ureters, implanting one in the other, in case of injury to one. The various steps of the procedure are illustrated as performed on large dogs and on cadavers.

Presse Médicale, Paris.

29 (No. 85. Oct. 21.) Les consultations de nourrissons (infant consultations). L. Devraigne.
30 *Le traitement du psoriasis par les maillots de pommade (salve tights). L. M. Pautrier.
31 (No. 86.) *La diathèse d'autoinfection. A. Gilbert.
32 Bromatologie clinique du riz (of rice). A. Martinet.
33 (No. 87.) La structure de la glande surrénale normale de l'homme (suprarenal). L. Bernard and Bigart.
34 Appareil pour irrigations urétrales, vaginales et rectales chaudes, démontable et transportable, thermo-laveur (portable apparatus for hot irrigations). D. Estrabaut.
35 (No. 88.) *L'isolement pratique des tuberculeux dans les hôpitaux. H. Barth.
36 *Traitement sérothérapique du goitre exophthalmique. Hallion.
37 Tetanus neonatorum et son traitement. G. Miron.
38 *Enquête sur l'alimentation de 100 ouvriers, etc. Parisiens. L. Landouzy and M. Labbé.
39 (No. 89.) *The Rôle of Forests and Soil in Development of Bacillosis.—Du rôle des forêts et de la constitution du sol dans le developpement de la bacillose en France. R. de Gaulejac.
40 Paralysie des nerfs moteurs de l'oeil chez les diabétiques (paralysis of oculomotors). Dieulafoy.
41 *Héroine et héroinomanie. P. Sollier.

30. Psoriasis and "Salve Tights."—For several years Brocq has adopted the practice of having his psoriasis patients put on at night a union suit or tights, to cover the entire body after it has been thoroughly smeared with the proper salve. The salve is rubbed all over the sound skin as well as into the patches of psoriasis, and the patient thus sleeps in an actual bath of salve. The salve-impregnated union suit can be taken off during the day if desired, but is worn every night. He has found that this method materially shortens the duration of treatment, while the drugs can be much less concentrated than when applied by other technics. His favorite formula for the purpose is 15 gm. of oil of cade with 85 gm. of glycerite of starch, made into an emulsion with green soap and oil of cloves. He uses a stronger concentration when only the patches are treated.

31. Diathesis of Autoinfection.—Gilbert remarks that all the passages leading out of the gastrointestinal tract generally contain bacteria, but that these are the species normally found in the intestine. The anaërobic varieties predominate in the depths of the passages, and are always waiting for something to reduce the vitality and resisting powers of the tissues in which they are lurking, when they proceed to set up an inflammation. Appendicitis, inflammation of the gall bladder and gallstone formation are all the work of the germs normally in the intestines, as also pancreatitis and certain other affections. The predisposition to inflammation in these circumstances he calls the "diathesis of autoinfection." He gives a long list of the affections that may result directly from it. They include gallstones, cirrhosis of the liver, angio-pancreatic sclerosis, appendicitis, and probably also mucomembranous enteritis, icterus, stomatitis, tonsillitis and acute articular rheumatism. There is also a long list of affections which follow in the train of the foregoing, such as diabetes, neurasthenia, hysteria, gout, etc.

35. Practical Isolation of the Tuberculous in Public Hospitals.—Barth refers to the sweeping regulations decreed by the Paris authorities a year or so ago in regard to the isolation of tuberculous inmates of the hospitals. The regulations were chronicled in The Journal at the time; they called for the setting apart of certain hospitals exclusively for the tuberculous. These regulations have never been enforced, and tuberculous patients continue to be scattered through the wards of some of the hospitals now as before. Barth has organized a practical system of isolation in the Necker Hospital which apparently answers all the purposes without any commotion. He assigns to the "open cases" of pulmonary tuberculosis a certain part of each ward. Another section is set apart for patients entirely free from tuberculosis, and no tuberculous person is allowed to enter this section except possibly those who show no tendency to cough or spit. Certain spaces are isolated with glass walls about eight feet high, and these are reserved for the doubtful cases and for those too feeble to observe the "discipline of the cuspidor." These isolating compartments are disinfected whenever they change inmates, and the main ward is cleaned morning and evening with damp cloths. The spittoons are filled with a carbolized fluid and each has a cover. They are emptied and boiled each day. All who cough are given pieces of paper which they hold before the mouth when coughing and then throw into a special receptacle. The consumptive knows that he will be sent away from the hospital if he enters the part of the ward devoted to the non-tuberculous or spits on the floor. Bacteriologic examination has been made daily of the nasal secretions from several of the non-tuberculous inmates, selected at random here and there through the wards, even close to the tuberculosis section. No tubercle bacilli were found during the two months in which these examinations were made.

36. Serotherapy of Exophthalmic Goiter.—Hallion reviews the history of this subject, claiming for Ballet and Enriquez priority for the application of serotherapy to this disease in 1894. They were followed by O. Lanz, who used the milk of goats after removal of the thyroid gland, while Moebius gives the serum of sheep after thyroidectomy. All have found that fully as good results were obtained when the serum was given by the mouth as when it was injected subcutaneously. Hallion prefers the blood of sheep or horses, as these animals seem to be better adapted for serum purposes than the carnivora.

Their blood can be used a month after thyroidectomy, and he utilizes the entire blood, believing that possibly the essential curative principle may be connected with the figured elements of the blood. He adds glycerin to preserve the blood, and orders one or two teaspoonfuls a day before meals. Larger doses have not caused any inconvenience, but do not seem to be more effectual than the smaller ones. Enriquez gives three teaspoonfuls a day for one week, then three dessertspoonfuls, and then three tablespoonfuls. The results are sometimes very rapid and striking. The improvement in the patient's condition is unmistakable as the tachycardia and tremor subside. The exophthalmos is more refractory. Secondary affections and complications are also favorably affected at the same time. Breton observed a hemorrhagic pleuritis in a patient with exophthalmic goiter which was evidently arrested by the serotherapy as the general condition improved. The goiter in the exophthalmic variety is less responsive to serotherapy than the typical triad of symptoms.

38. **Food of Paris Working People.**—Landouzy and Labbé presented to the Tuberculosis Congress a large table showing the details of the average diet of 100 men and women of the laboring classes, selected from the applicants at the Laennec Hospital. Lassalle claims that "the social question is a question of the stomach," but that there is a lack of wise provision for the diet of human beings, although stock raisers have reduced it to a science for their animals. To remedy this state of things a society has been formed at Paris, Société de Hygiène Alimentaire, which aims to study the questions in regard to diet from every point of view, and to teach and popularize the lessons learned. The practical study of rational feeding to preserve health, to maintain strength and to ensure the highest working capacity, at the minimum of expense, Landouzy believes, will prove certainly one of the most effectual forces at our command in arresting the spread of tuberculosis. More than this, education in household matters, "domestic education," is one of the best safeguards of both the physical and moral health of a country, as was explicitly stated in one of the resolutions adopted by the International Tuberculosis Congress.

39. **Forests and Tuberculosis.**—Gaulejac shows by statistics that the forest regions of France are less affected by tuberculosis than others. The purity of the air, the rapidity with which the organic waste matters are destroyed by the multiple, purifying functions of the trees, the properties of the essences exhaled by certain trees, all these, he states, supplement the more natural life lived in or near the forests.

41. **Addiction to Heroin.**—Sollier asserts that heroin is proving more toxic than morphin and that addiction to heroin—which is becoming comparatively frequent—entails greater physical and moral havoc than addiction to morphin. In treating 120 cases of morphin addiction he has never had occasion to return to the morphin more than three or four times, and then only from excess of prudence, fearing possible syncope. The syncope in treatment of morphin addiction comes from heart weakness, and if all extra demands on the heart are avoided, there need be no fear of it. In heroin addiction, however, the syncope is respiratory, of bulbar origin. It does not yield to a dose of heroin as the syncope yields to morphin in morphin addiction. If the ordinary measures to restore bulbar action prove ineffectual, the patient is liable to succumb. The only way to avoid danger from this source is to substitute morphin for heroin in treating heroin addiction. After the patient is under the effects of morphin, then treatment as for morphin addiction is commenced. Sollier cites some instances of the baleful effect of heroin, which he affirms should be thrown out of the pharmacopeia, and adds that there will probably be similar experiences before long with dionin addiction. He already knows of a few instances.

Semaine Médicale, Paris.

42 (XXV, No. 45, Nov. 8.) *Mode of Death in Scopolamin-Morphin Anesthesia.—Comment on meurt dans l'anesthésie générale par la scopolamine-morphine. De Maurans.

42. **Death in Scopolamin-Morphin Anesthesia.**—When this mode of anesthesia was introduced into France De Maurans called attention to the 12 cases in which death had occurred during the anesthesia, and for which the anesthetic was probably responsible. He now cites 10 more fatal instances, and analyzes the reports of them published by the various surgeons. His conclusion is to the effect that any one "using this notoriously unreliable and dangerous technic incurs a heavy responsibility." Experimental research has confirmed the findings in the clinic. The method is merely the revival of the atropin-morphin technic which was abandoned long ago, although atropin is a more stable product than scopolamin. (See Answers to Correspondents, December 9, page 1817.)

Berliner klinische Wochenschrift.

43 (XLII, No. 41.) *Ueber individualisierende diätetische Behandlung der Gicht (gout). C. von Noorden and L. Schliep.
44 *Die Pathologie des Trachoms. W. Goldzieher.
45 *Ueber thoracale Ostealgien. P. Hampeln.
46 Zwei Geschwisterpaare mit Friedreich'scher Krankheit (four cases in two families). K. Mendel.
47 *Superficial Cancer Cured by Exposure to Sunlight.—Heilung eines Haut-Epithelioms durch direkte Sonnenbestrahlung. M. Hirschberg.
48 Accompanying Delirium.—Begleitdelirien. Rauschke.

43. **Diet in Gout Based on Tolerance.**—During the two years in which von Noorden has made a special study of the tolerance of gouty patients for food containing the purin bodies, he has learned that there is a great difference in individuals in this respect. He put his patients first on a diet free from purin bodies, and determined the proportions of endogenic uric acid. He then gave 400 gm. beef (weighed raw) on two successive days, giving 150 gm. at breakfast and 250 gm. at noon. About 0.24 gm. of purin bodies can be estimated for each 400 gm. beef. About 50 per cent. of the purin bodies vanish in the organism, either from oxidation or from lack of assimilation, but the remaining 50 per cent. may be expected to be eliminated in the urine as uric acid or purin bases. During the two days, therefore, the proportion of purin nitrogen eliminated from the 0.24 gm. purin bodies ingested each day should amount to a total of 0.24 gm. demonstrable in the urine, equal to 0.72 gm. uric acid. The elimination generally occurs during the two days of the test, but may be prolonged under normal conditions into the day or so following. In case of gout, however, the elimination drags on for several days, and the total output is much less than that of normal subjects. We learn by this test whether the gouty patient is able to tolerate this amount of the purin bodies. If he can, there is no reason why he should not be allowed them, but if not, then the amount of purin-containing food must be reduced to ward off retention of uric acid and attacks of gout. It was sometimes found that a smaller amount of the purin bodies was well taken care of by the gouty patient, who had shown himself unable to cope with the original 400 gm. of meat. The amount of uric acid eliminated increased after ingestion of 200 gm. of meat, the total amount being much higher than after ingestion of 400 gm. of meat. The details of a typical case are tabulated. The patient, a man of 55, eliminated an average of 0.462 gm. of uric acid when not ingesting any purin-containing food. After two days of 400 gm. of meat each, he eliminated from 0.458 to 0.544 gm. of uric acid. He was then given 200 gm. of meat, and the amount of uric acid eliminated rose to 0.655 and 0.647 gm. on the folowing days. This patient, therefore, was allowed to eat meat freely to the amount of 200 gm. a day. Larger amounts would certainly have entailed retention of uric acid and attacks of gout. The tolerance of gouty individuals should be determined just as we determine the tolerance of diabetics. In both cases, however, the tolerance is not an invariable figure; it varies in the course of the disease, and these variations should be supervised and the diet modified to correspond. In von Noorden's experience, while the intake of purin bodies was thus regulated, the therapeutic results attained far surpassed those observed with any former method of treatment, either dietetic or medicinal.

44. **Pathology of Trachoma.**—Goldzieher remarks that bacteriology has not afforded much aid in the study of trachoma, but that the history of the affection shows an unmistakable connection with gonorrhea, as he relates in detail. He does not affirm that blenorrhea and trachoma are identical, but asserts that there are certain forms of chronic, infectious inflam

mations of the eyes, originating in blenorrhea, which it is impossible to differentiate from trachoma. The diagnosis of trachoma should not be based on the granulations alone, but on the evidences of infectiousness and on the long duration of the process.

45. **Thoracal Ostealgia.**—Hampeln has observed cases of ostealgia affecting the body of the sternum, the xiphoid process, or the false ribs. The pains in the first group suggest those of *angina pectoris*. In all, the bones seem to be the seat of continuous or paroxysmal, and sometimes radiating pains, and display sensitiveness to pressure. In some of the cases a tendency to gout was probable, but in others the signs were those of a general neurosis. In a considerable proportion of the cases there were no indications of any other affection, and consequently the ostealgia must be referred to an unusual sensitiveness of the bones in question. Since he has been studying the subject he has found that many apparently healthy persons feel pressure on certain ends of bones or bony processes as pain, although previously unconscious of this sensitiveness on the part of the bones. He regards this disposition to painfulness as almost physiologic for certain bones. In times of increased irritability, hysteria or neurasthenia, this predisposition may be magnified into actual ostealgia.

47. **Cure of Superficial Epithelioma with Sunlight.**—Hirschberg relates that he spent a month last winter at Caux, on Lake Geneva, at an altitude of about 3,400 feet. He had long had an epithelioma on his ear, which measured about 1.5 cm. by 0.5 cm., but after two weeks of out-of-door life among the mountains he found that the epithelioma was being cast off. He then exposed it more systematically to the sunlight, and by the end of the month nothing was left but a minute bunch which he easily removed by cauterization after his return. The ear is now entirely normal; there have been no signs of recurrence during the eight months since. He urges the establishment of open sun-resorts among the mountains for this purpose, the solarium being open to the sun and air, as glass prevents the passage of most of the ultraviolet rays. If Boubnoff's experiences are confirmed by others, the light treatment can be much simplified. Boubnoff announces that ordinary woolen and cotton clothing does not prevent the passage of the chemical rays. They pass more readily through the uncolored than colored fabrics. Of the colored fabrics blue allows more of the rays to pass than other colors, and black least of all. His experiments were made with diffuse daylight; the results would probably be better with direct sunlight.

Centralblatt für Chirurgie, Leipsic.

Last indexed page 1611.

49 (XXXII, No. 38.) *Klinische Beobachtungen ueber Glykosurie nach Ather-Narkosen. R. Röhricht.
50 Ein neues Modell einer Rippenschere (rib shears). J. Schoemaker (Hague).
51 (No. 39.) Zur Behandlung des Angi[illegible]n der Schädeldecken (of skull). A. [illegible]
52 Eine neue Beckenstutze (support for [illegible]r-kow).
53 (No. 40.) Zur Technik der Sehnennaht (tendon suture). Wilms and Sievers (Leipsic).
54 (No. 41.) Bemerkungen zur Resektion der Wurmfortsatzes (appendix). Th. Kölliker.
55 Recovery After Extraction of Bullet from Posterior Wall of Heart.—Schussverletzung des Herzens. Z. v. Manteuffel (Dorpat).

49. **Glycosuria After Ether Anesthesia.**—Röhricht has examined the urine of 100 patients after operations on account of cholelithiasis, struma, osteomyelitis, elephantiasis, cancer, hernia, varices, etc. Glycosuria was observed in one or more of each group, the total being 12 cases. Only one of the patients was under 20 and none over 60. Of the 12 positive cases, 8 were men. Only one out of 9 other patients who had undergone major operations under local anesthesia showed glycosuria, while it was not detected in 22 other patients after traumatism without anesthesia. On the other hand, out of 6 patients who had been anesthetized with ether, without an operation, 2 exhibited spontaneous and one alimentary glycosuria.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

56 (XXXI, No. 42.) *Zur Kenntnis der Spirochæte pallida. F. Schaudinn.
57 Ueber einige neue örtliche Anaesthetica (Stovain, Alypin, Novocain). H. Braun.
58 Aetiologie und Statistik der primären Iritis. A. Gutmann.
59 *Ein Verfahren zur biologischen Unterscheidung von Blut verwandter Tieré (to differentiate blood from closely related animals. Uhlenhuth.
60 Zur Frage der Herkunft des Fruchtwassers (origin of amniotic fluid). D. Grünbaum.
61 Zur Pseudo-Influenza-Frage. W. Korentschewsky.
62 Zur Kasuistik des Intentions-Tremors bei Kindern (tremor on voluntary movement, in children). E. Urbach.
63 Fermente und Toxine. C. Oppenheimer.
64 *Distribution of Typhoid Fever.—Die Verbreitung des Unterleibstyphus. A. Gottstein.

56. **Flagella of Spirochaeta Pallida.**—Schaudinn gives illustrations of the principal spirochetes and states that the pallida is the only one he has yet discovered which sometimes has a flagellum at one or both ends. In one instance he found two flagella at one end and one at the other. The old Loeffler bacterial flagellum stain shows them up best. Some of the other varieties of spirochetes have an undulating membrane, but he has never found this in the pallida. On account of these differences in the latter, setting it apart from the genus spirochæta as well as from the spirillum, he suggests that it is evidently a new genus and proposes the name of Spironema for it.

59. **Further Improvement of Biologic Test for Blood.**—Uhlenhuth relates experiences which demonstrate that the biologic precipitation test is the most delicate means at our disposal to detect relationships between animals and birds. It shows the close "blood relationship" between hens and pigeons, between rabbits and hares, and so on, and it may solve interesting questions in racial differences between human beings. He describes a method of "crosswise immunization" which shows that the rabbit organism, for instance, is able to form precipitins active against the blood albumin of the closely related hare. He also shows that it is possible by this means to differentiate the blood of each species from that of the other with mathematic precision. He injected his rabbits with a solution in physiologic salt solution of dried hare's blood fully four years old. The serum of the animals soon showed pronounced precipitating power in respect to hare's blood.

64. **Typhoid Fever in Prussia.**—Improved methods of caring for typhoid patients have reduced the mortality in a constant ratio from 2.64 to 0.81 per 10,000 inhabitants since 1887. Gottstein comments on the rapid spread and rapid extinction of the typhoid epidemics, most of them being restricted to a few weeks, even the famous one at Gelsenkirchen in which 11,357 cases occurred in 1901. This epidemic appeared and subsided within a few weeks. The largest number of cases of typhoid in places where the disease is endemic does not always occur in July, August and September, but is sometimes observed in February and March. An increase during the late summer is frequent, but is not an essential characteristic of a typhoid epidemic. He remarks also on the way in which certain districts suffered from typhoid during the summer of 1905. They were mostly industrial regions where the disease is more or less endemic, but even in Berlin the number of cases of typhoid, which was 45 in 1904, during last summer reached the total of 113. Throughout Prussia there were 1,475 cases, while in the preceding summer there had been only 1,092.

Münchener med. Wochenschrift, Munich.

65 (LII, No. 41, Oct. 10.) *Zur Diagnose, Prognose und Thera-[illegible] (heart affections). G. Treupel.
66 [illegible] ubstances.—Einwirkung [illegible] Substanzen. Edlefsen.
67 [illegible] f Habitual Constipation. [illegible] dlung der chron. habit- [illegible] esden).
68 [illegible] Processus Vermiformis [illegible]). P. Klemm.
69 Intra-abdo[illegible] f omentum). O. Simon.
70 Acarus in [illegible]—Spielen die Kratzmilben eine Rol[illegible] Lepra. E. v. Bassewitz.
71 Fall von äusserster Pulsverlangsamung (intervals of 10 seconds after 3 pulse beats, maintained for 50 hours). A. Frey.
72 *Eye Affections Due to Autointoxication.—Augenerkrankungen durch Autointoxikation. Elschnig (Vienna).

65. **Heart Affections.**—Treupel's address is the final summary of a postgraduate course on this subject. In determining the size of the heart and its parts, he has found orthodia-

graphic examination of the heart—as F. Maritz of Greifswald has worked out and perfected the technic—a great progress in this line. (Moritz' communications on the subject have been mentioned in The Journal from time to time. His latest article opened volume LXXXII of the *Deutsches Archiv f. klin. Med.*, 1905.) In conclusion Treupel announced the extremely satisfactory results of resection of the ribs in a case of extensive obliteration of the pericardium and adhesion of the heart to the thorax wall, which had been demonstrated before the operation. The patient was a man of 29 who had presented symptoms of heart trouble since an attack of articular rheumatism at 17, and had been treated for nephritis a year before. During the last few months he had experienced oppression in the heart region which increased toward evening and caused great distress and agitation. His sleep was very restless, even under morphin. There were no indications of disturbance in compensation, no edema or ascites, but waves were evident in the jugular veins and there was a positive venous pulse. The heart was excessively large, bulging out the chest wall. The mitral murmur was loud, systolic, almost musical, while the aortic murmur was diastolic, prolonged and gushing. The varying relations between the heartbeat and the carotid and radial pulse are shown in several diagrams. The heart action was moderately rapid, and occasionally the carotid pulse occurred synchronously with the retraction of the chest wall over the heart. In spite of rest, ice, digitalis and morphin, the subjective disturbances were not improved, and part of the chest wall over the heart was removed. This relieved the patient to a remarkable extent and he is now able to sleep well. About 7 cm. were resected from the fourth and fifth ribs over the heart, disjointing them from the sternum.

67. **Agar in Treatment of Habitual Constipation.**—Schmidt believes that chronic constipation in certain cases is due to the unusually good digestion and utilization of the food, leaving so little residue to be passed along that the intestines are not incited to peristaltic action. The residue being so small, there is very little putrefaction, not enough to stimulate the intestines to peristalsis by the gases and other products evolved. The feces in chronic constipation of this kind are hard, solid lumps, with little odor, and show few indications of fermentation or putrefaction. Aside from the difficulty in defecation and the accessory neurasthenic general manifestations, such individuals rejoice in undisturbed good health, not disturbed by gas formation or other phenomena suggesting excessive putrefaction. Such patients can take, without much reaction, a purgative which would cause protracted diarrhea in others. Even when entire wheat bread, salads, fruits or nuts are eaten in abundance, he states, the constipation persists, as the digestive organs are able to digest the cellulose more or less and the stools remain hard and scanty. What is needed is something that will increase the bulk of the stools and make them softer, more watery and less compact. Schmidt thinks that this result may be obtained with agar agar. It contains 0.6 per cent. cellulose, and when it swells up in water it gives up the water very slowly and is not modified by putrefaction. Bacteria do not liquefy agar. He has been experimenting with it and found that it answers the purpose very well. He uses the kind that comes in long strips, and flakes and cuts it up into small bits, like scales. It swells in the mouth and still more in the stomach, and appears unmodified in the stools. The stools become softer and more watery, and are usually passed much more readily. The agar does not irritate the alimentary canal in the least (as much as 25 gm. of the dry agar were taken daily in some of the tests without disturbance). When ingested in the form of a powder it is liable to cause diarrhea and occasionally colic, probably from the more rapid and intense swelling of the agar. The stools become soft and copious, but the intestines have been so long accustomed to the constipation that they do not respond readily to stimuli. Consequently, although the stools have the normal aspect they are not passed spontaneously in every case. To remedy this he adds a very small amount of a 25 per cent. aqueous extract of cascara to the agar—not enough to have a purgative action, but merely enough to supply the stimulation realized by the natural putrefaction in normal stools, but missing in these cases. He has treated 25 patients with chronic, habitual constipation on these principles, and essential and permanent improvement was obtained in every instance. Fluid paraffin is the only other substance which he has found with similar properties. He has given as much as 30 gm. a day of the paraffinum liquidum of the German pharmacopeia without disturbances, and has also had favorable experiences with white and yellow vaselin. This also requires a little 10 per cent. cascara extract to ensure spontaneous defecation. The agar is taken more readily than the vaselin by the patients, even when the latter is given in capsules. Some of the vaselin is evidently assimilated. In an illustrative case cited, the patient passed 38 gm. of hard, dry stools in three days on a test diet. During the three following days he ingested 66 gm. of the dry agar scales and passed in these three days 87 gm. of feces with more than twice as much cellulose as during the preceding period. The agar not only passed unmodified, but it prevented to a certain extent the abnormal utilization of cellulose. Agar has no taste at all. A teaspoonful to two tablespoonfuls are taken during the day in apple sauce or something of the kind, a total of 1.5 to 8 gm. It has to be taken regularly day after day, and in the severer cases its action must be supplemented by other measures. Its sphere is mostly in the mild and moderately severe cases, either of the atonic or spastic varieties.

72. **Eye Affections Due to Autointoxication.**—For ten years Elschnig has been making a special study of gastrointestinal autointoxication in the etiology of ocular affections. It is especially important as a cause of interior ophthalmoplegia, more rarely of paralysis of the external muscles of the eye and affections of the optic nerve. He thinks that it is also a cause of affections of the cornea and sclerotic, recurring keratitis, scleritis and periodical episcleritis, and affections of the uveal tract, especially in recurring iritis and many cases of insidious iridocyclitis. In certain cases of the latter groups there are symptoms of inherited lues, but antisyphilitic treatment gives negative results. It is more than probable that the inherited lues has caused changes in the digestive tract which predispose to gastrointestinal autointoxication. In all these eye affections, dietetic and therapeutic measures to regulate the digestive tract essentially improved or cured the eye affections after failure of all other forms of treatment.

Sei-I-Kwai, Tokyo.

Last indexed page 79.

73 (XXIV, No. 5.) *Operative Treatment of Aneurisms. T. Kikuchi. (Commenced in No. 4.)
74 (No. 6.) Casualties of Japanese Fleets in the Great Naval Engagement of the Japan Sea.
75 Statistics of Russian Prisoners Taken to Japan and of Those Admitted to Hospitals.
76 (No. 9.) Cultivation of Bacillus of Soft Chancre. I. Yamaguchi. (Commenced in No. 6.)

73. **Operative Treatment of Aneurisms.**—Kikuchi is surgeon general of the Japanese army, and in his experience in the field he evolved a method of treating aneurism which proved remarkably simple and reliable. On consulting authorities he found that it was much like Sime's modification of Antyllus' technic. He had occasion to observe 58 cases of aneurism, the result of bullet wounds during the war. The femoral artery was involved in 18 and the popliteal in 9, the subclavian in 5 and the brachial in 8 cases. The advantages claimed for his technic are that the operation is materially shortened and simplified, and the part of the vessel resected is comparatively small. The main artery is not ligated, but merely the afferent and efferent vessels belonging to the aneurism with their branches. A tourniquet is applied to the limb and the aneurism is exposed, incised, evacuated and wiped dry. The bullet hole generally faced the center of the body of the tumor, and it was always found to be the source of the hemorrhage. In doubtful cases a bougie may be passed through it. The part containing the hole is then tied off and resected, and the injured parts of the wounded vessel are tied off and resected on the inner side of the sac membrane.

Medizinskoe Obozryenie, Moscow.

Last indexed XLIV, page 1818.

77 (LXI, No. 12.) *Splenectomy for Hydatid Cyst.—Ekhinokokkovaya bolyezn v. Krymu. A. T. Kablukoff.
78 Liver Cysts of Non-parasitic Origin.—Kist petchenl, etc L. A. Divavin.

79 Formalin Pigment and Its Extraction from Tissues.—Formalinovii pigment i izvletcheniya ego iz tkanei. V. S. Dyevitzky.
80 (LXII, No. 13.) *K kazuistikye oslozhnenii aneurizmi aorti. V. F. Reisgoff.
81 2 Slutchaya symptom-complexa Adams-Stokes' a. O. P. V. Panfiloff.
82 (No. 14.) Treatment of Nasal Polyps.—K utcheniyu o tak. naz. "choanalnykh polypakh." Radtzikh.
83 Pathogenic Influence of Yeast Fungi.—Experimentalnoe izslye- [illegible] iiya drozhzhevykh gribkov na [illegible]
84 (No [illegible] of Leprosy at Moscow. Sem slutch [illegible] amgin.
85 *Extrage[illegible] slutchai vnyepolovogo zarazhenii [illegible] la Roche.
86 (No. 16.) Multiple Hydatid Cysts in Abdomen.—Mnozhestvennie echinokokki bryushnoi polosti. A. T. Kablukoff. Six cases.
87 Congenital Fistula Between Bladder and Umbilicus.—Puzirnopupotchnaya vrozhdennaya fistula. Vasilieff.
88 (No. 17.) *Tumor in Cerebellum of Boy of 9.—Opukholi mozzhetchka v dyetskom vozract. I. Y. Vinokuroff.
89 *Differentiation of Noma.—O raspoznavanii vodnyanogo raka shtcheki u dyetei. A. A. Kissel.
90 (No. 18.) *New Operation for Total Symblepharon.—Novii sposob operatzii pri symblepharon totale. N. G. Pravosud. Illustrated.
91 Radical Vaginal Method of Removing Uterine Fibromata.—Rad. vlagalishtchnii sposob op. udaleniya fibrom matki. V. V. Uspensky.
92 Preservation of Anatomic Specimens.—O. prigotovlenii anat. museinikh preparatov. G. V. Shor.
93 To Finish Paraffined Sections, Mounted on Glass.—O technikye obrabotki paraff. sryezov, prikleenykh k steklu. Id.

77. **Splenectomy for Echinococcus Cyst.**—Kablukoff reviews the cases of splenectomy on record to date, a total of 278, according to his figures. The operation was undertaken in 79 cases on account of malaria, with 23 deaths; in 94 on account of idiopathic hypertrophy, with 38 deaths; in 29 on account of leukemic hypertrophy, with 26 deaths; in 32 on account of displacement of the organ, with 2 deaths, and in 4 on account of cancer, with 1 death. Only 9 cases of splenectomy on account of echinococcus cyst are known to him, one of the number having been reported by a Russian surgeon. Kablukoff reports another successful case of this group. The patient was a woman of 36, and the affection had been diagnosed as a sarcoma of the left kidney. In 6 other cases he merely evacuated the cyst in the spleen by Lindemann's technic, with good results in all.

80. **Complications of Aneurism of Aorta.**—Reisgoff describes with great detail the clinical and postmortem findings in a case of aneurism of the aorta complicated by thrombosis with obstruction of numerous arteries. The patient was a man of 36. The case shows that obstruction originating in the arch of the aorta does not necessarily cause serious disturbance in the nutrition of the tissues previously nourished by the obstructed arteries in the neck, the carotid, subclavian and innominate. Collateral circulation develops, and the organism soon adapts itself to the altered conditions. In the present case the aneurism was in the descending aorta and in the arch, and the left carotid artery was found completely obstructed, also the mouth of the right coronary artery, while the left innominate and subclavian arteries with ramifications were only partially obstructed.

85. **Extragenital Syphilis.**—The patient in the case reported was a young woman of good family, who presented a chancre on the lower lid, followed by the symptoms of constitutional syphilis. When on her wedding trip a chambermaid noticed a stye on the bride's eye and offered to cure it by rubbing it. She used her saliva-moistened finger, and the result was the transformation of the stye into a syphilitic chancre, followed by the symptoms of constitutional syphilis.

88. **Tumor in Cerebellum of Boy of 9.**—Vinokuroff reviews the literature on the subject of tumors in the cerebellum before giving the particulars of his case. Headache, vomiting and indications of congestion in the fundus of the eyes were all the symptoms observed, but at the autopsy a large solitary tubercle was found in the left half of the cerebellum, with caseous degeneration in the center.

89. **Differentiation of Noma.**—Kissel's article is based on a material of 46 cases collected in the course of eleven years. There was a history of preceding measles in 25, of typhoid fever in 4, of dysentery or whooping cough in 2, and of double pneumonia in 1 case; the antecedents were not known in 12 cases. Ulcerative stomatitis developed as an independent process in most of the cases. The first signs of the affection are slight swelling of the cheek with very little pain or congestion. The infiltration shows a very hard center, feeling like cartilage. In some cases the gangrenous process develops in the bones of the face, the perforation of the cheek not occurring until just before death. In ulcerative stomatitis Vincent's bacilli and spirilla are found in great abundance, but they are scanty or absent altogether in case of true noma. In none of Kissel's cases was there a transformation of ulcerative stomatitis into noma. He urges the importance of careful, daily examination of the mouth in all children debilitated by an acute infection. If this is done systematically, then cases of noma will be detected in the incipient stages. In rare cases the destructive process may affect the bones of the face without involvement of the skin. In one case he was called in consultation to see a little girl of 10 with typhoid fever. The surroundings were hygienically of the best and the child had been under constant medical supervision. He examined her mouth and found an unsuspected extensive gangrenous process in the soft part over the alveolar processes in the right upper jaw and roof of the palate. In another case, a girl of 5 lived in a neighborhood where there had been several cases of ulcerative stomatitis. She developed a gangrenous process in the cheek which did not reach perforation, but otherwise was typical noma, terminating in recovery. As a rule, he found the lymphatic glands less involved in noma than in ulcerative stomatitis.

90. **Operation for Symblepharon.**—Pravosud thinks that all methods of remedying symblepharon have so many defects that a new technic is desirable. He advocates a plastic operation which consists in making a horizontal incision to enlarge the interpalpebral slit to the edge of the orbit on each side. Two incisions are then made downward from the ends of the horizontal incision, at right angles to the first incision, for a distance of 1.25 cm., slightly converging below. A knife is then passed through the lid from one of these perpendicular incisions to the other, forming a flap whose base is parallel to the interpalpebral slit, while one side follows the base of the nose and the other corresponds to the outer side of the orbit. A piece of mucous membrane is then taken from the cheek and fitted over the raw surface left as the flap is turned down. The upper edge is sutured to the eyeball and the lower edge to the edge of the turned-down flap. Three loop stitches are then taken through the applied flap and the lower lid at the base of the flap. These loops hold the mucous membrane down to form a conjunctival sac, and are tied outside of the skin when the lower lid with its new lining is turned back and sutured in place.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SEXUAL [illegible] (N[illegible]S EXHAUSTION). Its Hygiene, Causes, Sy[illegible] With a Chapter on Diet for the Nervous, b[illegible] M.D. Edited with Notes and Additions, [illegible] M.D. Sixth Edition. Cloth. Pp. 316. [illegible] E. B. Treat & Co., 1905.

LABORATORY GUIDE IN EXPERIMENTAL PHARMACOLOGY. Directions for the Course Given in the University of Michigan. By C. W. Edmunds, A.B., M.D., and A. R. Cushny, A.M., M.D. Cloth. Pp. 246. Price, $1.50. Ann Arbor, Michigan: George Wahr, Publisher.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By. J. W. White, M.D., and E. Martin, M.D. Illustrated with 300 Engravings and 14 Colored Plates. Sixth Edition. Cloth. Pp. 1092. Price, $6.00 Philadelphia: J. B. Lippincott & Co.

MINOR AND OPERATIVE SURGERY INCLUDING BANDAGING. By H. R. Wharton, M.D. Sixth Edition, with 532 Illustrations. Cloth. Pp. 650. Price, $3.00 net. *Philadelphia: Lea Brothers & Co.*, 1905.

OIL WELLS IN THE WOODS. By J. C. O'Day, M.D. With Illustrations by Miss Ethel Farmer, and Photographs Collected by the Author. Cloth. Pp. 359. Deposit, N. Y.: The Oquaga Press, 1905.

TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Compiled by L. L. Dock. Fourth Edition, Revised and Enlarged. Cloth. Pp. 330. Price, $1.50 net. New York: G. P. Putnam's Sons, 1905.

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. Reprints. Vol. III. 1905. Paper. New York: Rockefeller Institute for Medical Research.

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Address

PATHOLOGIC PHYSIOLOGY, A NEGLECTED FIELD.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON PATHOLOGY AND PHYSIOLOGY, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION PORTLAND, ORE., JULY 11-14, 1905.

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CHICAGO.

Not many generations ago physiology was taught in connection with anatomy only, and was a simple statement of the functions, as then understood, of the various structures described by the anatomist. It was Haller, who in his "Elements of Physiology,"[1] outlined the field of physiology and clearly established the boundary line between that subject and anatomy. Since Haller's time physiology has been recognized as a separate branch of medicine and soon after the publication of Haller's Elements, provision began to be made by the medical faculties for the teaching of this subject in a separate department.

Begun as an appendage of normal human anatomy, it continued as normal human physiology, gradually broadening into animal and plant physiology. Great as has been the activity in the field of morphology, that in the field of physiology has been scarcely less until the mass of facts and principles of physiology already firmly established is so great that the two years' course in experimental and didactic instruction in physiology now usually given in medical schools suffices simply to present such fundamental principles and facts of the science as may be applied later in clinical medicine. Furthermore, great as this material is, it includes only the discussion of the functions of the normal individual. In other words, the course of physiology as now given is one in normal physiology only.

If we turn now to the subject of pathology as presented to-day in our medical schools, we find that histopathology—presented usually in the second year—deals almost exclusively with modifications of the structure of the cells and tissues of the body, while the didactic course accompanying the microscopic work deals usually with the field of general pathology covering such topics as hydremia, anemia, hemorrhage, transudation, thrombosis and embolism; atrophy, degeneration, pigmentation and necrosis; hypertrophy, hyperplasia, metaplasia and regeneration; inflammation; parasites, animal and plant; the relation of micro-organisms to disease, infection and immunity; infectious diseases; tumors.

One searches the chapters of general pathology in vain for any sections that deal adequately with the problem of the physiology of disease.

Taking up the field of special pathology as usually presented in the third and fourth years of the medical course, one finds that the postmortem furnishes the material for study. The points of fundamental importance at the postmortem as it is conducted by our leading pathologists are: (1) To confirm, or disaffirm, the diagnosis of the condition as made by the attending physician; (2) to gain information that will make the diagnosis of similar cases more secure in the future; (3) to increase our knowledge of diseased conditions of the body. With these ends in view it is customary to preface the postmortem examination by the reading of the clinical history of the case in hand, followed by, first, an examination of the body to determine gross conditions, demonstrating all evident changes of the gross conditions as the examination proceeds; second, preserving portions of each diseased tissue or organ for later microscopic examination. Such a postmortem examination requires from one to two hours, not including the many hours that may be later devoted to the study of microscopic changes.

The accumulated material from the numerous postmortems affords museum material for gross study as well as microscopic material for study in connection with various topics in clinical pathology.

I believe that the above account, though brief, gives a fair summary of the work now being accomplished in our pathologic laboratories. I think it is not unfair to other departments of the medical school to say that the work of the pathologic department is the most important work in any one department of the medical course, and the work now given in the larger institutions could hardly be improved on in the time that is devoted to it.

It appears to me, however, that a very important phase of pathology and physiology has as yet received scant attention from medical teachers. The postmortem affords a golden opportunity for the study of the clinical history, particularly of the symptomatology, of the case in the light of the postmortem findings. The symptomatology of disease represents nothing more or less than modified functions as observed in diseased conditions. That there is a definite relation between the symptoms observable in a disease and structural changes that go on in the cells, tissues or organs can not be gainsaid. It may be difficult to establish this relation, but the pathologists should not be satisfied with their work until every disturbance of function has been traced to some disturbance of structure. The disturbance of structure accompanying malnutrition might be so slight as the simple difference in the zymogen granules of the pancreas, or in some obscure physical or physico-chemical change in the cells of the thyroid gland, while a derangement of the mind might be associated with a slight change in the Nissl granules in the cortical cells of the brain, or in a slight modification in the space relations ("contiguity") of cell-processes in the brain centers.

As stated above, the postmortem affords an opportunity for the study of the relation of disturbed function (symptomatology) to the diseased structure. Such an attempt on the part of the pathologist to enter into the discussion of this problem in connection with the postmortem examination would involve the expenditure of at least twice as much time as is usually now spent on a postmortem examination. In many cases this would entail the necessity of making fewer postmortem examinations than is desirable.

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[1] Elementa Physiologiæ, in six volumes, 1757-1765.

The question might be asked, "Why should not the physiologist cover this field and present to the students normal and pathologic physiology?" We will say in answer to that question: The physiologist presents normal physiology during the first two years of the medical course. The students have not progressed far enough in the study of pathologic conditions to enter understandingly into a consideration of the relation between symptomatology and pathology. Thus we find that important as this field is, neither the physiologist nor the pathologist—one for the lack of preparation of his students, the other for the lack of time—can take up this most important subject. The student therefore enters on the study of clinical medicine and surgery with a knowledge of normal structure and function, and also a knowledge of diseased structure, but no knowledge of diseased function. The clinician, in his presentation of a clinical case, may or may not discuss the symptomatology of a case from the standpoint of physiology. If an attempt is made at this at all it is more or less incidental to the discussion of diagnosis, of differential diagnosis and therapeutics. The relation of symptomatology to diagnosis on the one hand and to therapeutics on the other, so far overshadows in the mind of the clinician its relation to pathology on the one hand and normal physiology on the other, that very little attention is given to these last two phases of symptomatology.

I believe that the most important step to be taken in scientific medicine is, first, to determine and next to teach every student of medicine the relation between symptomatology and pathology, and this teaching should be a systematic course given to students taking clinical medicine and surgery, and should be divorced from any discussion of diagnosis or therapeutics, so that the undivided attention of both student and instructor would be directed to the solution of problems of the relation of modified function (symptomatology), to modified structure (pathology). It might be given by a pathologist, a physiologist or a clinician. In either case the preparation of the instructor could not be deemed adequate unless he were well versed not only in physiology and pathology, but also in clinical medicine.

One naturally asks at this point whether there exists a literature of this subject. Krehl, professor of internal medicine, University of Strassburg, Germany, has prepared a most admirable work of 600 pages entitled "Pathologic Physiology; A Treatise for Students and Physicians."[2] The third edition of this work was published in Leipsic in 1904. The first edition appeared about a decade ago. Earlier editions were not translated into English, and it has had a very limited use in Germany and among advanced men in other lands. An English translation of this admirable work is just now completed by Dr. Hewlett of Johns Hopkins University. Professor Krehl treats this subject from the standpoint of the clinician following the classification of the pathologist, and harmonizing his treatment at every point with the latest findings in physiology.

The question of the classification of the subject-matter is one of no small importance, and is a question to which I have given considerable thought. For the purposes of the physiologist and the pathologist, Krehl's method is advantageous. It is, however, questionable if such a classification would make the work as convenient as a manual for the student and practitioner as would a classification on the basis of diseases, following that of works on internal medicine.

A preliminary chapter or "part" of such a treatise should deal with general pathologic physiology, setting forth the relation between the various disturbances of function and various lesions of disease. For example: Variations of pulse, with causes of same; variations of peripheral circulation, with causes for same; variations of distribution of blood, with causes of same; variations of rate or character of respiration, with causes; variations of digestive processes, with causes of same; and so on briefly throughout the list of body functions.

Following this should be the main body of the treatise in which diseases of the circulatory system might occupy the opening chapter. Taking up any particular disease there should be a brief description of a typical case as to etiology, pathology and symptomatology. Under the head of pathologic physiology, each symptom should be discussed as to its causes and its relation to the pathologic findings. Diagnosis and treatment need not be mentioned. The discussion of typical cases of each disease would suffice.

I present a plea for the preparation of such a manual as above outlined and for such a course as above suggested, because I believe these are the most urgent needs of medical pedagogy.

Original Articles

THE ABRUPT ONSET OF TYPHOID FEVER.*

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There must be many variations in the onset of a disease, the course of which may be so mild as to be practically unnoticed, or which may kill after an explosive course of only a few days.

Especial stress has recently been laid on the variations in the onset of typhoid fever, as if these irregular cases were a new feature. It is probably nearer the truth to assume that the great improvements in the diagnostic methods in typhoid fever, especially the Widal reaction, have established the identity of a fairly large number of cases which formerly escaped recognition, and by reason of this, it may be added, were undoubtedly largely instrumental in spreading the disease. These irregular cases are much more frequent in infants and children than they are in adults; yet I prefer to restrict my remarks to-day to some of the irregular cases in adults which are characterized by an abrupt onset. These cases are of great practical importance, since rarely is the diagnosis more essential and at the same time more difficult to establish than in some of these patients.

A striking proof of these contentions may be found in the paper published by Curschmann[1] of Leipsic, which was rendered necessary by the sudden and dramatic death of a member of the royal house of Hessen from an abrupt case of typhoid fever.

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[2] Pathologische Physiologie, 3rd Edition, by Dr. Ludolph Krehl. Published by Vogel, Leipzig, 1904.

* Read before the Twenty-second Annual Meeting of the New York State Medical Association, held at the New York Academy of Medicine, Oct. 17, 1905.

[1] Deutsche Med. Wochenschrift, April 21, 1904.

The high mortality of these cases makes their early recognition imperative, a task which is frequently made difficult by the great variations in the clinical picture. These variations emphasize the general nature of the infections of typhoid fever, since any part of the body may be the seat of the initial manifestations, and it is the sudden development of these local symptoms, combined with the features of a general infection which renders the picture so protean.

As regards the frequency of this form of onset, a careful study of the cases at Mt. Sinai Hospital showed that it occurred in about 10 per cent. of all cases.

The recognition of the abrupt onset is by no means new, since it was first described by Chomel in 1834, in a number of cases presented in his *Clinique Medicale.* No further attention was paid to these observations until Maurice Raynaud referred to them in 1876. In 1884 De Mussy reported a number of cases, terming this method of onset "explosive." Since then a number of French writers, chief among whom are Potain and Widal, have added cases. In this country Pepper and Stengel[2] have also called attention to this subject. The statement of these authors, however, that Moore was the first to call attention to this class of cases in his text-book on Eruptive and Continuous Fevers in 1902, is incorrect, as is shown by the references which I have just given.

The most complete presentation of this subject is that of Wormser,[3] who draws attention to the high mortality in this class of cases, a statement which my own experience confirms. Widal has also studied these cases and has noticed the very early occurrence of his reaction in this group, it being positive on the third to the sixth day, and he therefore believes that the explanation of the sudden invasion is in many cases not to be traced to the shortness of the disease, but to the fact that the typhoid bacilli have "developed silently" in the organism. In these cases it is also probable that the bacilli may be unusually virulent, or that they may be associated with other antecedent infections, such as grip, malaria, tuberculosis, etc., which have lessened the powers of resistance of the individual, or, on account of the presence of a mixed infection, have favored the unduly rapid and virulent growth of the typhoid bacillus.

Before proceeding further we must carefully distinguish two important groups of cases with an abrupt onset. First, those which really are abrupt and which are the cases especially referred to in the preceding remarks; and second, those which seem to be abrupt and yet are actually not so—I refer to those melancholy cases of walking typhoid, by no means infrequent, in which the onset of the disease has been insidious and which invite medical aid only after the appearance of some catastrophe, such as perforation, hemorrhage, peritonitis, etc. These cases are too familiar to require any special consideration. How common they are may be readily inferred from the fact that in England typhoid fever is included among the causes of sudden death.

Cases of abrupt onset may be ushered in variously, either with chills, single or repeated, severe pains in the abdomen, head or other parts of the body, or violent delirium; or they may simulate cases of appendicitis, nephritis, pneumonia, pleurisy, grip, etc. Then, too, we have cases of sudden onset which act like diphtheria with throat lesions, or cases with marked hyperpyrexia; while of still another type are the hemorrhagic cases. An unique form of sudden onset to which I have seen no reference occurred ten years ago in a young adult, in which the initial symptoms were a marked tachycardia and heart failure. It will thus be seen that the abrupt onset presents a very considerable degree of variation which will tax the diagnostic skill of even those who are expert in the disease.

Closely allied to the cases of abrupt onset and to be differentiated from them, are some of the cases of paratyphoid fever, the sudden onset of which brings this class of cases into close relationship with the group under discussion.

A few illustrative cases may be cited. The meningeal type is one of the most common of these cases of abrupt onset.

An interesting example of this occurred a number of years ago in my service at Mt. Sinai Hospital. A boy of 14 was admitted comatose, with a high fever, slow pulse and all the evidences of severe brain mischief. The history given by his parents was that while at play some days before he had fallen down a flight of steps and had been picked up unconscious, in which state he had continued, the fever having also persisted for the same length of time.

Examination of the optic discs by Dr. Gruening showed congestion; a lumbar puncture yielded clear cerebrospinal fluid, which was under increased pressure; examination of the ears and skull negative; moderate enlargement of the spleen was referred to the fever. The case was considered a surgical one until on evening rounds, Dr. I. Straus, who was house physician at the time, discovered a few roseola. On the next day a blood examination gave a positive Widal reaction.

Some of these abrupt meningeal typhoids closely resemble cases of cerebrospinal meningitis. In passing, I might state that the differentiation of these two classes of cases is usually very easy, since a simple leucocyte count will usually make a differential diagnosis possible, as never have I failed to find a high leucocyte count (above 16,000) in cases which proved to be cerebrospinal meningitis, while a low count of 3,000 to 5,000 was invariably present in the cases which developed as typhoid. The lumbar puncture, of course, gives additional diagnostic information. Clinically, however, the cases for a number of days may run an absolutely identical course.

The lungs and pleura when primarily attacked by the typhoid bacilli give us still another form of sudden onset, viz., the pneumo-typhoid and pleuro-typhoid, which are too well known to require any further description. This group may include cases where the sudden onset is so distinctly pulmonary that for a long time they are regarded as being acute tubercular pneumonia. An example of this kind occurred in the practice of Dr. S. V. Haas, where the exact diagnosis of typhoid fever was not made until the Widal reaction was positive in the fourth week. Until that time the case was regarded as being probably an acute pulmonary tuberculosis, the onset, course and the physical signs in both lungs fully warranting this supposition.

Another type of abrupt onset is where the patient is able to give not alone the day on which the disease began, but the exact hour from which he passed from a condition of apparent health into that of being seriously ill. These cases of abrupt onset are associated either with severe chills, fever, violent pains in the head or general pains in the back or other parts of the body, so that an attack of rheumatism or grip is suspected.

Of the cases with an onset of pain I need not say much, since this is a form which is sufficiently common.

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[2] Philadelphia Med. Jour., vol. 1, 1898.

[3] "De Début Brusque de la Fièvre Typhoïde," Thèse de Paris, 1901.

Two classes of pain might, however, deserve a little further consideration. One is that form of abdominal pain which is especially referred to appendicitis. The clinical association of appendicitis and typhoid fever has been discussed so fully that I may permit the simple mention of this type to suffice without citing any special cases, except two, which may deserve some notice.

1. *The patient* was a boy, 10 years old, in the practice of Dr. W. G. Eckstein, who, while playing, received a kick in the abdomen. After reaching home he suffered from nausea and vomited; the temperature rose to 100.5 degrees, but on the next day he was perfectly well. Two weeks later, after eating lunch, he vomited and then complained of abdominal pain. four hours later the temperature suddenly rose to 105 degrees; there was very marked prostration, but there were no other symptoms except abdominal pain and distension and the fever. On the next day the same conditions persisted, and the boy looked very sick. The tongue was dry and coated; the abdomen was distended; there was tenderness over the abdomen, being especially pronounced over the appendix. The temperature persisted at 105 degrees. Dr. Gerster, who saw the case in consultation, made a probable diagnosis of appendicitis, but advised waiting for further developments before operating. On the following day the same conditions prevailed, the temperature being still between 104.5 and 105 degrees. The Widal reaction was positive only in high dilutions. On the following day the roseola appeared. The subsequent course was an uneventful recovery.

2. Another example of abrupt onset, with severe abdominal pain, like appendicitis, but which was peritonitic, has just been published and deserves mention.[4] The patient was a 6-year-old child who had a very short attack of measles of only three days' duration. Two weeks later she was suddenly taken ill with fever, vomiting and abdominal pain. Two days later the vomiting became freed and the intensity of the pain was so great and their localization such that the diagnosis of appendicitis seemed probable. Ten days after the onset the patient died. At the autopsy the peritoneum was found to be cloudy, with deposits of fibrin in the vicinity of spleen. Otherwise the abdomen was absolutely normal, except in the lower portion of the ileum, where there was a superficial typhoid ulcer.

Josias directs especial attention to the sudden onset of the symptoms, with vomiting, to the rapid and fatal cause and to the perforations, which were not due to a perforation, but to the dissemination of the toxins through the intestinal walls.

The other variety referred to of sudden onset with pain is that of severe pain in the head, which is often very puzzling. The meningeal type I have already mentioned, but this does not include all these cases. As you know, the headache of typhoid fever is usually the characteristic frontal headache. This frontal pain may indeed be so severe that diagnostic errors may result, an example of which is the following case which occurred in the practice of a competent physician in a neighboring city. A young man was suddenly taken with fever and very severe frontal headache. Examination of the nose revealing a marked swelling of both middle turbinates, and there being marked local tenderness over the sinuses and the corresponding portions of the nose, the diagnosis of local disease of the nose was not unwarranted. This view was confirmed by a specialist who was summoned from this city, and the middle turbinate bones were immediately operated on to secure drainage. The headache, local tenderness and fever persisting in spite of this, the specialist was again called in, and he again insisted on more drainage from the frontal sinuses. To secure this both frontal sinuses were opened. To the chagrin of the attending physician typical roseola appeared on the following morning, and the patient successfully passed through an ordeal of typhoid fever.

Another type of sudden onset is that which is marked by sudden high fever, which may or may not be associated with chills. The rise of the temperature is so rapid that within twenty-four to thirty-six hours it reaches its maximum of 105 to 107 F., and the course reminds one of some severe poisoning rather than of typhoid fever. Death occurs usually at the end of the first week, the patient seldom surviving beyond the second. These foudroyant cases, as they have been called by Curschmann, are fortunately rare. I myself have seen but one, the temperature rising to 111 F. shortly before death on the tenth day. The only complication present was a lobar pneumonia, which developed on the ninth day.

The hemorrhagic form of typhoid fever is also often ushered in with sudden onset and runs a brief and rapidly fatal course. These cases are often mistaken for typhus fever. The hemorrhagic form is not always ushered in suddenly, for the only case of this form which I have seen developed in the ordinary fashion and did not show its hemorrhagic form until the latter part of the disease.

Malaria may be associated with the sudden onset of typhoid fever, the relations of which have been well brought out by the experiences in the recent Spanish war, namely, that malaria is apt to complicate the beginning and the end of the disease, but is not a factor of the disease in its fully developed stages. Closely allied to this question is the occurrence of chills at the onset of the disease. Chilliness or repeated small chills are extremely common, occurring in 33 per cent. of the cases at Mount Sinai Hospital. Repeated severe chills without any malarial affection also occur (2 per cent. in all cases). Some forms of this have already been given in some of the variations previously noted. I believe that the abuse of coal tars and other antipyretic drugs has been given undue prominence as the causation of chills at the onset of typhoid fever. While this might have been true some years ago when the coal tars were so recklessly used, yet now it is scarcely to be assumed.

Sudden onset in the throat characterizes a class of cases which is rather rare, the onset in the throat being either in the shape of characteristic Bouveret ulcers or severe pharyngitis. Diphtheria of the pharynx may be associated with a sudden onset of the disease in some cases, examples of which I have already published.[5]

Another type of sudden invasion is illustrated by a case which occurred in the practice of Dr. Berg of this city. A young married woman who was well enough to be out to hear the returns of the presidential election, was suddenly taken ill two days later with high fever, for which no explanation could be found beyond an acute nephritis, the urine boiling almost solid and containing characteristic casts. For four weeks she ran a continuous temperature with delirium, and although she was seen by some of the best clinicians of this city, no explanation could be given beyond the fact that she had nephritis and continuous fever. Independently, the Widal reaction was continually sought for in vain by Drs. Park and Libman. With the fall of the temperature the urine cleared up. A few days afterward the temperature again rose, again the urine contained large quantities of albumin and casts, and now for the first time the Widal reaction was independently obtained by both Drs. Park and Libman.

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[4] A. Josias: "Fièvre typhoide à début péritonique," Méd. Moderne, 1905, No. 8.

[5] "Pharyngeal Diphtheria and Typhoid Fever," Amer. Med., June, 1901.

The grip type is another form of sudden onset and one which presents features of peculiar interest and gravity as regards the diagnosis. Let me cite a case. Eight years ago I was called to see a young man, 26 years of age, who for four days presented the group of symptoms: fever, general pain and aching, injection of the eyes and throat, bronchitis, etc., so characteristic of the catarrhal type of grip. The termination of the attack was as abrupt as its onset, and he immediately went off to a suburban club to recuperate. When I saw him before he left he was absolutely well. I was called to see him six days after and found him suffering from a fully developed attack of typhoid fever, to which he succumbed from perforation.

For a long time this case caused me much concern, for I was never sure whether I had not been guilty of an error in diagnosis in falsely considering his first attack to have been one of grip. Indeed, at a discussion on typhoid fever at the Metropolitan Medical Society five years ago, I referred to this patient and also called attention to the diagnostic difficulties offered by this class of cases, the exact relations of which I could not then understand. It was with no small amount of comfort that I read the last paper written by the late distinguished Parisian clinician, Potain.[6]

Potain discusses the occurrence of typhoid fever in direct succession to influenza and reports six cases of this character. In all these cases there was an abrupt onset characteristic of influenza, and they ran the course of influenza for a variable period. Then doubtful signs of typhoid fever developed, and the typical course of typhoid fever ensued with positive Widal reaction. Potain lays stress on the fact that the roseola appeared only after the eleventh to the thirty-first day had elapsed, and therefore infers that there could be no doubt of the existence of a preceding influenzal affection in these cases. His cases ran a mild course.

In the discussion of his paper[7] similar cases were reported. Le Gendre reported two cases of the same kind, one of them having been a physician who had been studying the pathologic anatomy of typhoid fever, and the other was a nurse who had been attending a case of typhoid fever. Widal, Vincent, Rendu and others presented similar observations. Wormser also calls attention to theses published by Millée[8] and Sabathier,[9] in which the sudden onset of typhoid presented phenomena which absolutely recalled the grip. Vernon[10] has also discussed the clinical association of grip and typhoid fever. The general consensus of French opinion is that the antecedent attack of grip has predisposed to the typhoid affection. With this view I am not absolutely in accord, since the subject can not be considered settled until further opportunity has been given to study the Widal reaction in the earlier attacks, nor should we lose sight of the fact that there are undoubted cases of typhoid fever, the onset of which is exactly the same as influenza.

The differential diagnosis of these two conditions, an influenza and some forms of early typhoid fever with abrupt onset with marked catarrhal symptoms and general muscular pains, is by no means easy. Some of the important characteristic diagnostic symptoms of typhoid may usher in an influenza. Thus in no other disease (except typhoid fever) is bradycardia so common as in grip. Furthermore, a moderate enlargement of the spleen is quite frequent in grip. Intestinal symptoms may also be present, while the general symptoms may be absolutely identical. The progress of the case, the roseola, the Widal reaction, etc., alone enable us to differentiate these cases.

How can these cases of sudden onset be explained? One explanation is that already given, viz., that the typhoid bacilli have developed silently in the organism and without presenting any marked clinical features until the disease was well developed. The early development of the Widal reaction, which has already been referred to, would seem to corroborate this view. In many cases, however, this explanation will not hold, and the explanation of the sudden onset must rather be found in the rapid development of the organism within the body. As an example of this I might mention the case of a physician in this city, who, while working with typhoid cultures, accidentally swallowed some of the bouillon mixture. Seven days after he was suddenly taken ill with high fever, marked prostration and diarrhea. Within two days a complete picture of typhoid was fully developed.

The rapid growth of the typhoid bacillus is favored either by a pre-existing infection, such as grip, tuberculosis, malaria, etc., which has debilitated the patient, or by other causes which have enfeebled the patient and lessened his power of resistance, and thus favored the rapid growth of the organism. I refer to the effects of severe physical exercise, as in soldiers or athletes, and the effect of severe mental strain, etc., since in many of these patients physical or mental strain has preceded an attack of typhoid fever. The future must alone decide which of these explanations is correct. Probably both are of importance.

Be the explanation what it may, the clinical fact remains that in about 10 per cent. of the cases of typhoid fever an abrupt onset is possible, the clinical manifestations of which are so varied and so uncharacteristic of the classic typhoid fever of gradual onset, that in any case of severe acute illness of sudden onset in which there is a disproportion between the severity of the symptoms of infection and the clinical findings, a properly applied test for the Widal reaction should never be omitted. The fact that the Widal reaction develops so early in the cases of typhoid fever with abrupt onset lends particular value to this test in these cases.

A CRITICAL STUDY OF THE VARIOUS METHODS EMPLOYED FOR ENUMERATING BLOOD PLATELETS.*

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The two chief characteristics of the blood platelets are their marked tendency to undergo speedy dissolution in shed blood and their property of adhering to one another and to foreign objects. These characteristics explain the difficulties that have been experienced in attempts to count accurately the number of platelets.

The early investigators used various preserving fluids in their attempts to prevent the disappearance of the

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[6] "Grippe et fiévre typhoide intercurrente," Gaz. des hôp., April, 1900.

[7] Gaz. des hôp., June 8, 1900.

[8] "Etude de la fièvre typhoide à début grippal," Thèse de Paris, 1884.

[9] Thèse de Paris, 1899.

[10] Arch. Med. et Phar. Mil. Paris, 1899, vol. xxxiv, pp. 369-387.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

* This investigation was made with the aid of a grant from the Rockefeller Institute for Medical Research.

platelets from freshly drawn blood, and the counts were made with the ordinary hematocytometer. The results were regarded as so unsatisfactory by Halla[1] that he concluded from his study that it was impossible to determine the absolute number of blood platelets, and that the relative number could be estimated best in fresh preparations. Only a few years ago Türck[2] employed the same procedure, evidently because he regarded even the newer methods of counting the platelets as quite untrustworthy. The investigations of Eberth and Schimmelbusch[3] on the relation of the platelets to thrombosis strongly impressed them with the opinion that there were more platelets in the circulating blood than the counts indicated.

DESCRIPTION OF METHODS.

Havem,[4] with his students, used a variety of diluting and preserving solutions in his enumeration of blood platelets. One that he highly recommended was the amniotic fluid of the cow, to which tincture of iodin had been added. This was prepared according to a method devised by Max Schultze.[5] The dilution of the blood was made in the graduated capillary pipette, and the counting chamber was employed. Hayem[6] states that the average number of platelets in the blood of man is 250,000 per c.mm. Tables published by his pupil, Cadet,[7] showed that of 108 healthy individuals only two had a plate count below 200,000, and only four above 300,000. The highest count was 310,000.

Afanassiew[8] found that a weak peptone solution had advantages over the fluids previously employed. It preserved the erythrocytes as well as the platelets, and staining of the platelets was rendered possible by the addition of an anilin dye. The fluid was prepared by mixing 0.6 per cent. of dried peptone with a 0.6 per cent. solution of sodium chlorid; 1 to 10,000 or even 1 to 20,000 of methyl violet was added. The fluid was boiled and filtered; then preserved in sterile flasks. For the enumeration of the platelets the ordinary blood-counting apparatus was used. Afanassiew found that the number of platelets in healthy adult men varied usually from 200,000 to 300,000 per c.mm. In fourteen counts of his own blood using various preserving fluids, most commonly Pacini's fluid and osmic acid, the average number of plates was 231,000, the average number of erythrocytes was 5,278,000. In eight determinations made with the aid of peptone solution the average was 250,000 per c.mm. Tables published by his pupil, Cadet,[7]

Fusari[9] used the melangeur. He gave the number of plates as varying from 180,000 to 250,00 per c.mm. Muir[10] likewise used the graduated pipette. He pointed out that the blood should be quickly drawn into the tube, and the dilution made rapidly. He found 200,000 to 250,000 per c.cm. in normal individuals.

Kemp and Laker found independently that the use of the graduated pipette (melangeur potain) introduces an error, because many of the platelets adhere to the wall of the pipette, and hence the counts are too low. Laker found that counts of the same blood varied greatly. Both Laker and Kemp, and later Brodie and Russell, Determann and myself avoided the use of the pipette, and employed indirect methods for counting the platelets. The ratio of platelets to erythrocytes is determined in a drop of diluted blood, and then the number of erythrocytes being known, the number of plates can be easily calculated. Laker[11] ascertained the number of erythrocytes in the ordinary way; then he mixed a small drop of blood as quickly as possible with a large drop of fixing fluid. The mixture was made homogeneous by stirring and a portion of it was placed in the Thoma-Zeiss counting chamber and the number of erythrocytes and platelets within the same ruled areas in different parts of the chamber was determined. Kemp, without knowledge of the work of Laker, devised the same year a similar method. Van Emden,[12] employing Laker's method and using as a preserving fluid, 1 per cent. osmic acid, obtained in health counts of 200,000 and 300,000 platelets per c.mm.

Pizzini[13] used 1 per cent. osmic acid colored with methyl violet, and placed a drop of the fluid on the finger tip and pricked the skin through the drop. A portion of the diluted blood was at once placed in a Thoma-Zeiss counting chamber and the ratio of platelets to erythrocytes determined. It differs from van Emden's method chiefly in the fact that no attempt is made by stirring to distribute the platelets equally through all parts of the diluting fluid.

Prus[14] used the following modification of Flemming's solution:

Sol. acidi osmici, 1 per cent.	10
Sol. acidi chromici O, 1 per cent.	10
Acid. acetici glacial	1

The ordinary hematocytometer was employed. The erythrocytes were completely dissolved so that the plates were not obscured in the counting chamber by their presence, as was the case with other fixtures, unless the blood was greatly diluted. Larger quantities of blood could thus be examined, and this would lead to greater accuracy. In health he found as an average 500,000 platelets per c.mm.

Van Emden[12] used Prus's fluid. Before being used the pipette was cooled in a freezing mixture, as Hayem had shown that 0° C the platelets underwent less rapid destruction. He compared the method with that of Laker and found that the results agreed. Platelet counts of the blood of normal individuals yielded an average of 245,000 per c.mm.; the lowest was 208,000 and the highest 269,000.

Rabl[15] devised a method of counting the platelets in dried preparations. It involved the use of a complicated stain and the necessity of counting all the plates on the two cover-slips between which the drop of blood was spread.

Brodie and Russell used solutions of glycerin of various strength, colored and dahlia. Excellent results were obtained with a solution composed of equal parts of glycerin, saturated with dahlia, and 2 per cent. sodium chlorid. In solutions containing a high per cent. of glycerin the platelets are freely movable. Unfortunately, glycerin dissolves out the hemoglobin from the erythrocytes. They found, however, that an enumeration can be made before the fluid renders the erythrocytes invisible. They determined the ratio of platelets to erythrocytes. In a properly prepared specimen the platelets moved freely across the field of the microscope and were never clumped. A series of fields taken at random were counted until three or four hundred erythrocytes had been enumerated. The erythrocytes numbered on an average 5,400,000 per c.mm., and the platelets 635,000 per c.mm. They fail to state whether these figures are based on the examination of one or many individuals.

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[1] Halla: Zeit. für Heilkunde, 1883, vol. iv, p. 331.

[2] Türck: Klinische Untersuchungen über das Verhalten des Blutes bei acuten Infectionskrankheiten. Wien, 1898, p. 6.

[3] Eberth and Schimmelbusch: Die Thrombose nach Versuchen und Leichen befunden, Stuttgart, 1888.

[4] *Hayem: Du sang, Paris, 1889, p. 14.*

[5] Schultze: Virchow's Archiv., 1864, vol. xxx, p. 260.

[6] Hayem: Du sang, Paris, 1889, p. 374.

[7] Cadet: Thèse de Paris, 1881, cited by Hayem.

[8] Afanassiew: Deutsches Archiv für klin. Med., 1884, vol. xxxv, p. 217.

[9] Fusari: Arch. per le Scienze med., x, p. 231. Cited by *Brodie and Russell.*

[10] Muir: Journal of Anatomy and Physiology, 1891, xxv, p. 259.

[11] Laker: Sitzungsbericht der Akad. der Wissenschaft. Wien, vol. xciii. Cited by van Emden.

[12] van Emden: Fortschritte der Medicin, 1898, vol. xvi, p. 240.

[13] Pizzini: Riforma medica, 1894, ii, Nos. 32 and 33. Cited by van Emden.

[14] Prus: Medycyna, 1886, Nos. 39 and 40. Abstracted in the *Cent. f. inner. Med., 1887, p. 469.*

[15] Rabl: Wiener klin. Wochenschrift, 1896, No. 46, p. 1061.

Determann[16] determined the ratio of platelets to erythrocytes in a counting chamber. He preferred as a preserving and diluting fluid a 0.9 per cent. solution of sodium chlorid, to which was added a drop (to 10 c.cm.) of a concentrated aqueous well-filtered solution of methyl violet. He tried a variety of other fluids, including a mixture composed of 1 per cent. sodium chlorid and 5 per cent. potassium bichromate, as recommended by Wlassow,[17] and also Hayem's, Pacini's and Müller's fluids, 1 per cent. osmic acid. In a study of twenty-five healthy individuals he found the ratio of platelets to erythrocytes varied from 1-18 to 1-30. The average was 1-22. Assuming the number of erythrocytes to have been 5,000,000 per c.mm., the average number of platelets was 227,000.

Kemp and Calhoun[18] used the indirect method of enumerating the platelets. The number of erythrocytes was estimated with the hematocrit, and the ratio of platelets to erythrocytes determined in a Thoma-Zeiss counting chamber. The preserving fluid was composed of formaldehyd, 40 per cent. solution 1 part, sodium chlorid 1 per cent. solution, 15 parts, with methyl green enough to color. The average number of platelets per c.mm. was found to be 862,000 for men and 833,000 for women. These figures were based on fourteen different counts of blood from eleven men and of six counts of specimens from two women. In another series[19] of determinations the average number of platelets per c.mm. taken from a mean of seventy-two observations on nineteen individuals was 778,000. The maximum was 961,500 and the minimum 730,000. In a later communication Kemp[20] stated that the average of five counts on five consecutive days on the same individual was 457,000 platelets per c.mm.

The most recent paper on the enumeration of platelets is that by Helber.[21] He used a 10 per cent. solution of sodium metaphosphate, which was first employed as a preserving fluid for platelets by the writer.[22] Helber had a special counting chamber constructed which was 0.02 mm. deep. In other respects it resembled the ordinary Thoma-Zeiss chamber of 0.1 mm. depth. A cover-slip 0.10 mm. thick (No. 16 in Zeiss' Catalogue for 1902) was used. The system of Zeiss lenses usually employed was objective E and compensation ocular 6. The graduated pipette designed for a dilution of 1-31 was carefully cleaned with sulphuric acid, water, alcohol and ether. Blood was drawn to the mark 1, then the melangeur was quickly filled with 10 per cent. sodium metaphosphate solution to the mark 31. The number of platelets was determined in the blood of twenty-four healthy men. The lowest count was 192,000, the highest 264,000; the average was 228,000. Four times the number was under 200,000, seven times between 200,000 and 220,000, eight times between 220,000 and 250,000, and five times above 250,000.

CRITICISM OF THE FOREGOING METHODS.

The results obtained vary considerably. Hayem gives the average number of platelets as 250,000 per c.mm.; Afanassiew, 200,000 to 300,000; Fusari, 180,000 to 250,000; Muir, 200,000 to 250,000; Brodie and Russell, 635,300; Prus, 500,000; van Emden, 245,000; Determann, 227,000; Kemp and Calhoun, 778,000; Helber, 228,000.

There are four main sources of error:

(1) *Fragments of erythrocytes (Arnold's bodies) have been mistaken for blood plates.* The platelets which Hayem described as containing hemoglobin were probably of this nature. Van Emden maintained that if the melanguer filled with a mixture of blood and Prus's fluid were shaken too vigorously artefacts of traumatic origin are formed from the red blood corpuscles. Van Emden thinks that Prus mistook these bodies for platelets and attributes his high count to this error.

(2) *The use of a graduated pipette.* The tendency of the platelets to adhere to glass has been overlooked or disregarded by many in selecting a method of counting platelets. The investigators who have taken account of this are Brodie and Russell, Laker, Determann, and Kemp and Calhoun. The counts of those who used the capillary pipette were always too low, as many platelets adhered to the walls of the tube. This error, as I have shown in my observations recorded later, may amount to 50 per cent. Halla, as early as 1883, pointed out that if blood is drawn into a capillary pipette clumps of platelets are formed. None of the methods can be regarded as trustworthy which involved the use of the pipette. Hence the platelet counts of Hayem, Cadet, Afanassiew, Fusari, Muir, Prus, van Emden and Helber can not be accepted.

(3) *The use of the ordinary counting chamber.* Halla[1] recognized that in this chamber foreign bodies might easily be mistaken for platelets. It should be remembered that the depth of fluid on the Thoma-Zeiss micrometer slide is 100 microns, which is about fifty times the diameter of the platelet. The erythrocytes quickly settle to the bottom of the drop, but the platelets tend to float in the upper layers of the fluid, and it is difficult not to miss some of them in the count. Helber has indicated clearly the unreliability of platelet counts made in the ordinary counting chamber. On account of the distance of the cover-slip from the ruled lines on the slides a high objective with its slight focal distance can not be used. But in order to distinguish platelets from the degeneration products of erythrocytes (Arnold's bodies) a high power is needed. Professor Krehl and I attempted to overcome these difficulties by using a specially constructed Zeiss counting chamber of half the regular depth (0.05 mm. instead of 0.1 mm.). Later, Helber in Krehl's clinic solved the difficulties by employing a counting chamber 0.02 mm. deep, and replacing the usual cover-slip by one only 0.1 mm. thick.

The investigators whose results may be questioned owing to their employment of the ordinary counting chamber are Laker, Pizzini, Determann, Kemp and Calhoun, as well as Hayem, Afanassiew, Fusari, Muir, Prus and van Emden, who, as I have shown, introduced an additional error into their counts by employing the graduated pipette.

(4) *The lack of satisfactory preserving fluids was the* [illegible] *of error in many of the methods.* Brodie and

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[16] Determann: Deutsches Arch. für klin. Med., 1898, vol. lxi, p. 365.

[17] Wlassow: Ziegler's Beiträge, vol. xv, p. 543.

[18] Kemp and Calhoun: Amer. Jour. of Phys., 1901, vol. v.

[19] Kemp and Calhoun: Brit. Med. Jour., 1901, vol. ii, p. 1539.

[20] Kemp: Amer. Jour. of Phys., 1902, vol. vi.

[21] Helber: Deutsches Arch. für klin. Med., 1904, vol. lxxxi.

[22] Pratt: Arch. f. exp. Path. u. Pharm., 1903, [illegible]

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Russell tested the solutions used by earlier investigators, and discarded all of them. None was found in which the platelets did not stick to one another or to the erythrocytes or to the *leucocytes or to the glass*. The solutions tested included Hayem's fluid, Pacini's fluid, Afanassiew's fluid, and formic aldehyd of different strengths. Some fixed the platelets well, but could not be used, as the platelets did not remain freely movable in them. This study of Brodie and Russell would lead to the rejection of the methods of Hayem, Afanassiew, Muir, Determann, Kemp and Calhoun.

THE WRITER'S METHOD OF COUNTING PLATELETS.

Deetjen,[23] in 1901, found that the ager containing *sodium metaphosphate* had the property of preserving blood platelets when a film of blood was spread on it. At Deetjen's suggestion, Professor Krehl and I tested a weak solution of sodium metaphosphate as a preserving fluid. We found that the platelets speedily disappeared. In a 10 per cent. water solution of sodium metaphosphate, however, both platelets and erythrocytes were well preserved. For the past two years I have employed the following solution which gives equally good results:

Sodium metaphosphate (Merck).........	2 grams.
Sodium chlorid	0.9 grams.
Distilled water	100 c.cm.

This solution keeps indefinitely unless molds or bacteria develop.

The number of erythrocytes is determined with the Thoma-Zeiss apparatus, and the ratio of platelets to erythrocytes in fresh preparations of the blood. The slides and cover-slips must be perfectly clean. Immediately before use it is well to test the cleanness of the glass by placing a drop of water on it; if the drop can not be spread out in a uniform thin layer the slide or cover-slip should be rejected.

Glassware is placed first in sulphuric acid, saturated with potassium bichromate, then washed in water and alcohol and placed in jars containing 95 per cent. alcohol, where they are kept until needed. They are then removed from the alcohol and wiped dry on a clean towel. I have found this procedure more reliable than the one I formerly advocated of heating the cleaned glass to 200 C. and storing in Petri dishes.

A few c.cm. of the sodium metaphosphate solution are poured into a watch-glass. The ear is cleaned with soap and water, alcohol and ether, and then stabbed deep enough to permit drops of blood to flow freely. A sterilized platinum loop, similar to those used in bacteriologic work, with a diameter of about 3 mm., should be filled with the preserving fluid, and the center of the loop is brought in contact with a fresh drop of blood on the ear. There should be three or more parts of fluid to one of blood. If desired, further dilution may be made on the slide. A portion of the mixture should without delay be covered with a cover-slip. The spread of blood should be so thin that the erythrocytes are well separated. It is not necessary to mix the blood and fluid intimately by long stirring, as without it the platelets and erythrocytes will be found evenly distributed in good specimens, and the platelets will not be clumped. Two preparations should always be made, and if the ratio of platelets to erythrocytes varies markedly in the two, *then new specimens should be prepared*. An oil immersion lens should be used in counting and a Leitz 3 ocular or its equivalent. A square diaphragm in the ocular facilitates counting. This can readily be made from thick paper or a card. It forms a simple substitute for Ehrlich's ocular. The platelets and erythrocytes are counted in fields taken at random in different parts of the specimen, until 250 to 500 erythrocytes in each of the two preparations have been seen.

COMPARATIVE COUNTS BY DIFFERENT METHODS.

It was thought desirable to test the various procedures by counting the platelets in the blood of the same individual by different methods.

Test 1.—March 7. Healthy man, aged 25. Erythrocytes, 5,552,000. Platelet count by Helber's method, using the original Helber-Zeiss apparatus, 330,000. This platelet count was kindly made for me by Dr. Cadwalder of the Pennsylvania Hospital.

Platelet Count.—By my method, 550,000. Dr. Cadwalder had previously made several counts, by Helber's method, of blood from this same individual and never obtained a higher figure than 350,000.

Additional tests have shown conclusively that even the momentary contact of the blood with the walls of the glass pipette in the method used by Helber destroys many platelets.

Test 2.—A leucocyte counter was cleaned and filled as Helber directs, *then a drop was expressed on a slide and the ratio* of platelets to erythrocytes determined.

Platelet Count.—By my method, 1,443,000; after the blood had been drawn into a pipette according to the method of Helber, 561,000. In both counts 10 per cent. sodium metaphosphate was the preserving fluid used.

Test 3.—June 7. Healthy man, aged 46. Erythrocytes, 5,480,000.

Platelet Counts.—Brodie-Russell method, 288,000; Kemp-Calhoun, 304,000; Determann, 498,000; my method, 668,000.

Determann specimen after standing one hour, 171,000 per cm.; my specimen after five hours, 637,000 per cm.

Test 4.—June 8. Woman, aged 32. Posthemorrhage anemia. Erythrocytes, 3,768,000.

Platelet Counts.—Determann, 410,000; Kemp-Calhoun, 488,000; von Emden, 508,000; *my method*, 1,142,000.

Test 5.—June 23. Erythrocytes, 4,304,000.

Platelet Counts.—My method, 1,196,000 per c.mm.; 1 per cent. osmic acid substituted for sodium metaphosphate solution, 130,000 per c.mm. The same proportions of blood and preserving fluids used in both determinations, the dilution being about 1 to 4.

PLATELET COUNTS IN NORMAL INDIVIDUALS BY MY METHOD.

	Sex and age.	Platelets. per c.mm.	Erythrocytes. per c.mm.	Leucocytes. per c.mm.
1.	M., 26.........	556,000	5,008,000	....
2.	M., 25.........	555,000	5,552,000	....
3.	M., 27.........	326,000	4,560,000	....
4.	M., 32.........	280,000	5,040,000	....
5.	M., 29.........	226,000	5,660,000	....
6.	F., 27.........	344,000	5,848,000	....
7.	M., 41.........	483,000	5,800,000	2,400
8.	M., 43.........	422,000	5,904,000	5,600
9.	M., 20.........	449,000	5,840,000	2,200
10.	M., 46.........	564,000	6,200,000	4,000
11.	F., 26.........	725,000	4,712,000	6,800
12.	M., 27.........	328,000	5,904,000	4,400
13.	F., 27.........	416,000	4,576,000	....
14.	M., 32.........	478,000	5,018,000	5,800
15.	F., 29.........	505,000	5,184,000	4,200
16.	M., 29.........	472,000	5,144,000	....
17.	M., 28.........	572,000	5.552,000	6,000
18.	M., 32.........	589,000	6,424,000	6,400
19.	M., 34.........	436,000	5,232,000	6,400
20.	F., 29.........	575,000	5,008,200	4,600
21.	M., 23.........	426,000	5,112,000	....
22.	M., 23.........	572,000	5,032,000	5,200
23.	F., 22.........	388,000	4,656,000	9,400
24.	M., 15.........	658,000	5,464,000	6,400
25.	M., 22.........	377,000	4,520,000	....

The maximum count in this series was 725,000 per c.mm.; the minimum 226,000, and the average 469,000.

DISCUSSION.

Dr. George T. Kemp, Champaign, Ill., said that, in addition to the paper under discussion, he had had the pleasure of listening to a paper by Dr. Pratt, read before the Johns Hopkins Medical Society, on the subject of the enumeration of blood platelets in different forms of anemia, and that he regarded such work as of great value. He looked forward to seeing important discoveries made in the near future by the study of blood platelets in disease—discoveries which would be of decided use in diagnosis and prognosis. The importance of hitting on a reliable method for enumerating the platelets is obvious. Dr. Kemp called attention to two criticisms which Dr. Pratt had made of the Kemp and Calhoun method, and said that neither of them would apply. The first was that formaldehyd could not be used as a fixative. This was based, as Dr. Pratt stated, on a quotation from Brodie and Russell. Dr. Kemp said that he was familiar with Brodie and Russell's work, and, as he recalled it, they did not have sodium chlorid in the aldehyd fluid they tried. The Kemp and Calhoun formula calls for this, and it is essential.

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[23] Deetjen: Virchow's Archiv, 1901, clxiv, p. 239.

If the proper percentages of salt and aldehyd are present, and if the blood is taken into a drop of the fluid placed over the puncture to receive it the instant it emerges, the platelets do not clump and the reds do not lose their hemoglobin. Another precaution is to take a small drop of blood into a large drop of the fluid and to mix them instantly. A gentle stir or two is sufficient.

Regarding the second criticism—namely, that the Thoma-Zeiss counting-chamber could not be used because the platelets floated at the top and, therefore, could not be brought into focus with the red corpuscles and the lines—Dr. Kemp said that, while this might apply with fluids used by Dr. Pratt and by Helber, as stated by these observers, it did not apply when the Kemp and Calhoun fluid was used. He had not used the Pratt nor the Helber fluid, but the specific gravity of the Kemp and Calhoun fluid was such as to allow the platelets to settle to the bottom readily so that the platelets, the red corpuscles and the lines are easily in focus at the same time. In the Kemp and Calhoun experiments a thin cover-glass was always used. Arnold-bodies are not formed in the fluid employed, and, as a rule, a one-sixth objective enabled an experienced observer to decide whether a given body was a platelet. It sometimes happened, however, that it was desirable to use a higher power, and for that reason Dr. Kemp said he regarded the Helber chamber as a great improvement over the ordinary form. He stated, further, that several different kinds of ruled eye-pieces had been used, and the counting-chamber dispensed with altogether. The results were not different from those obtained with the Thoma-Zeiss instrument. In conclusion, Dr. Kemp said that some of the platelet-counts given by Dr. Pratt, running over a million to the cubic millimeter, were larger than he had ever seen, except at high altitudes. He did not wish to offer any unfavorable criticism of the Pratt method, however, because he had not yet tried it.

VARIATIONS IN THE RATIO OF DIAMETERS OF THE NORMAL CHEST AT DIFFERENT AGES.

THE FORM OF THE PHTHISICAL CHEST.*

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INTRODUCTION.

It is proposed to give in concise form records on which may be based deductions of the changes in proportions of the chest, in its development from the fetal state to the adult form. Information will be offered to emphasize the special periods where development is particularly marked, as this study has been but slightly touched on. A general knowledge of the changes in the human chest is given in most of our standard anatomic works without, however, a grouped record on which the statements are based; and the material collected in late years by clinicians and physical examiners, can be very profitably supplemented by using a practical method of summarizing the observations. The study of the human chest is always one of much interest to the medical practitioner for the valuable deductions that may be obtained. The skill with which the diagnostician of the present day utilizes the chest conditions in their various aspects has reached a high degree of perfection.

The statistics here presented include measurements on 502 subjects to illustrate the normal chest. To these are added 54 tubercular cases, which were studied in order to aid in substantiating Woods Hutchinson's[1] conclusions of the form of the chest in phthisis and its significance, as he emphasized the importance of the subject and wishes to see more extended measurements made. Besides, data are given which were taken from dogs, rabbits and guinea-pigs, numbering 46 animals. These data illustrate the typical quadrupedal chest sufficiently for comparison with the human chest. And, finally, there is an additional group of measurements from 16 monkeys. Though the observations are not very extensive, still they are sufficient to furnish a basis for proper deductions with a fair degree of accuracy.

METHODS.

In all the chest measurements I used steel calipers which registered in centimeters and millimeters. By familiarity with the instrument, the touch is schooled to give every measurement a like degree of pressure in applying the tips. By practice in palpating the chest and sighting the planes, the diameters are evenly placed and regularity is secured in the system of data. Fuller data were taken on the adolescent and adult chests than on the fetus, infant and child.

The following is descriptive of the diameters of the chest and the three planes selected for the placing of all diameters except the first:

1. The length of the chest is measured from the middle of the clavicle to the junction of the tenth rib with its costal cartilage, using the left side exclusively. The length of the chest was taken on both the right and left sides in 54 adults, to determine what disparity there might be between the two. The right-handed man in practically every case gave a slightly longer right side, due apparently to the somewhat more elevated shoulder mass on that side, increasing the inclination of the right clavicle over that of the left.

Bony landmarks were chosen for this diameter, because of greater accuracy than the use of an imaginary line, passing down the chest from the clavicle to the margin of the ribs and just one inch outside the nipple. The position of the nipple is variable, always fallible for locating a diameter of the female chest; and even on the male the nipple may be above or below the fourth rib, over which it is generally considered to lie; and it may be more or less than an inch to the inner side of a line, drawn from the middle of the clavicle to the junction of the tenth rib with its costal cartilage.

The three planes, placed at different levels of the thorax, are sighted perpendicular to the long axis of the body. They are not quite parallel with each other, as can be readily conceived when the normal curvature of the trunk is considered.

2. The dorso-ventral diameter in the upper plane (clavicular) passes through the upper part of the manubrium at the interclavicular notch.

3 and 4. The dorso-ventral and the transverse diameters in the mid-plane (nipple) pass just below the junction of the fourth rib with its costal cartilage.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Hutchinson, Woods: Some Deformities of the Chest in the Light of Its Ancestry and Growth, The Journal A. M. A., vol. xxix, Sept. 11, 1897, p. 512. Also: Is the Consumptive Chest Flat? The Journal A. M. A., vol. xl, May 2, 1903, p. 1196.

Measurements for forced inspiration, forced expiration and repose are made for each of these diameters.

The purpose of locating the mid-plane by a bony landmark was to secure more accuracy in the observations, for as already indicated the location of the nipple is a variable one. The common use of the nipple line and the nipple plane in securing anthropometric data ought to be discarded for a more exact method and one which is easily followed by the physician. Vierordt speaks of the nipple as an uncertain point, but only suggests that the errors its use in placing lines leads to "should be corrected by cultivating the eye to recognize what is to be regarded as the average location."

5 and 6. The dorso-ventral and transverse diameters in the lower plane (ensiform) pass just above the junction of the seventh rib with its costal cartilage. The end of the ensiform cartilage can not always be felt; the cartilage may be curled inward, turned abruptly to one side or the other of the median line, and it may be long or short. The variability in position of the end of the ensiform makes it an uncertain landmark to aid in placing a body plane.

I would again emphasize the use of planes, sighted perpendicular to the long axis of the body and passing through fixed bony landmarks of the thorax, in which planes the important diameters of the chest should lie. For the three dorso-ventral diameters the mid-line ventrally, represented by the sternum, and the mid-line dorsally, i. e., the spine, serve for placing the tips of the calipers. For the transverse diameters, the mid-axillary lines are used to serve this purpose.

INDICES.

In the tables, indices have been formulated to aid in presenting more graphically the principal changes in the chest as they occur. Fourmentin[2] was the first to determine the thoracic index by using the formula of the craniologists:

$$\frac{\text{Transverse diameter} \times 100}{\text{Dorso-ventral diameter.}} = \text{index.}$$

Maurel[3] used this index a little later, and he was followed by other clinicians, who made numerous observations as regards the two diameters of the chest. In 1897 Hutchinson,[1] instead of using the index of Fourmentin, adopted the less cumbersome method of dividing the dorso-ventral diameter of the nipple plane by the transverse diameter. The tables contain both methods, with some slight modifications. Preference is given to the newer index, when comparing variations in the diameters at successive periods of time.

$$\underset{\text{(Hutchinson)}}{\text{Breadth index}} = \frac{\text{Mid-Dorso-ventral}}{\text{Mid-Transverse}} = \frac{D}{T}$$

$$\underset{\text{(Fourmentin)}}{\text{Breadth index}} = \frac{\text{Mid-Transverse}}{\text{Mid-Dorso-ventral}} = \frac{T}{D}$$

$$\underset{\text{(Hutchinson)}}{\text{Length index}} = \frac{\text{Mid-Transverse}}{\text{Length of chest}} = \frac{T}{L}$$

Referring to the indices of Hutchinson, the lower the index the *longer* and *wider*, respectively, the chest. According to the index of Fourmentin, the higher the index the wider the chest.

MEDIAN VALUES.

For convenience in recording the measurements taken, printed cards of convenient size were used. These cards not only facilitated collecting data, but also were of especial value when grouped for the purpose of finding median values. The style of card used for the observations taken on individuals above 12 years of age is shown herewith:

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.
DEPARTMENTS OF PHYSIOLOGY AND PHYSICAL DIAGNOSIS.

Name or number..
Age.................... Weight.....................
Standing height............. Sitting height.................
Lung capacity. ....
Diameters of the chest.
1. Length *of the chest: from the middle of clavicle to the junction* of the tenth rib with its costal cartilage.
(a) Right side............. (b) Left side................
2. Dorso-ventral, manubrium...............
Plane: Just below junction of the fourth rib with its costal cartilage.
3. Dorso-ventral:
(a) Forced insp...... (b) Forc. exp...... (c) Repose......
4. Transverse:
(a) Forced insp...... (b) Forc. exp...... (c) Repose......
Plane: Just above junction of the seventh rib with its costal cartilage.
5. Dorso-ventral..........................
6. Transverse..........................
Examiner, W. A. BESSESEN,
Date..............

The method used in summarizing the many measurements which have formed the material for the following tables is W. S. Hall's[4] method of handling anthropometric data, based on Quetelet's[5] median value. The median value may be defined as "that value which is so located in the whole series of observations of a single measurement, that there are as many below it as above it." In a small number of observations, one extreme is almost certain to overbalance the other extreme, therefore the Hall-Quetelet method is the more accurate and must be conceded to have more value than the average.

For explanation, let us take the diameter dorso-ventral manubrium, in twenty-nine young men, all aged 21 years. It varies from 13 cm. to 16.6 cm. As each measurement is in centimeters and millimeters, the cards are arranged in successively increasing values for this particular diameter. The fifteenth card will be the median diameter, which in this instance was 14 cm. To have sought the arithmetical average would have been a time-consuming method. By dividing this series of measurements just mentioned into ten groups with a difference of 0.4 cm., we get:

EXAMPLE 1.—DORSO-VENTRAL MANUBRIUM DIAMETER OF 29 MEN.

Measurement..	13+	13.4+	13.8+	14.2+	14.6+	15+	15.4+	15.8+	16.2+	16.6+
Number of observations,...	8	1	7	7	3	0	2	0	0	1

If it is desired to substitute the established mathematical formula[4] for securing the median value, it can be readily done:

$$M = a + \frac{d\,(n/2 - l)}{m}$$

M = median value to be determined.
a = minimum value of median group (the group containing the median value).
d = difference between groups.
n = total number of observations.
l = sum of observations below the median group.
m = number of observations in the median group. Substituting:

$$M = 13.8 + \frac{0.4\,(29/2 - 9)}{7} = 14.08$$

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[2] Fourmentin, Emil J. J. F.: Studies Precises sur les Deformations de la Poitrine avec Applications a la Pleuresie et a la Phthisic Indices Thoracique; Paris, 1874, No. 411.

[3] Maurel, E.: Mensuration de Cago Thoracique, Bull. de la Soc. d. Anthropometric d. Paris, 3 S., vol. x, p. 345.

[4] Hall, W. S.: The Evaluation of Anthropometric Data, THE JOURNAL A. M. A., vol. xxxvii, Dec. 21, 1901.

[5] Quetelet: Anthropometric ou Mésure dés Different Facultés de l'homme, Bruxelles, 1870.

The median value is not only of more consequence in summarizing anthropometric data than the arithmetical mean or average, but it is based on biologic and mathematical laws.

TABLE 1.—DATA FROM EIGHTY-FIVE ANIMALS AND HUMAN FETUSES.

Classification.	1 Dogs.	2 Guinea-pigs.	3 Rabbits.	4 Monkeys.	5 Human Fetuses under 30 cm. long.
Number measured	29	10	7	16	23
Median values (in cm.)					
Length of body	...	...	...	...	10
Length of sternum	16.3	5.5	7.8	8.95	...
Length of chest	...	...	...	12.25	...
Dorso-ventral, manu.	...	...	...	5.3	...
Dorso-ventral, ens. D.	15.2	4.5	6.5	8.95	2.15
Transverse, ens. T.	11.7	3.95	5.9	8.55	2.05
Indices.					
Breadth, D/T.	1.3	1.13	1.1	1.04	1 048
Breadth, T/D.	0.77	0.86	0.90	0.95	0.95

The diameters of the lower plane were selected in securing the breadth indices of the animals and fetuses, because for them the greatest depth and breadth of the chest are in this plane. Even for several months after birth, the human chest normally presents its greatest dorso-ventral and transverse diameters in the lower plane. After this time the mid-plane diameters are equivalent to or slightly greater than the diameters of the lower plane.

The mid-plane is the most important one for study of the human chest, and the diameters of this plane will be used as before described in determining breadth indices from birth to maturity. The mid-transverse with the length of the chest T/L will give the length index.

TABLE 2.—DATA FROM FORTY-EIGHT BABIES.

Classification.	1 Under 3 days. (Included in col. 2.)	2 Under 26 days.	3 1 mo. to 13 mos.
Number measured	8	25	23
Median values.			
Age (days)	2	9	90
	5.5	7	11
	8.9	9.5	11.4
2. Dorso-vent., manu	5.5	5.6	6.2
3. Mid-dorso-vent., D.	8.35	8.6	10.3
4. Mid-transverse, T.	8.6	9.	11.
5. Lower dorso-vent.	8.6	9.3	11.2
6. Lower transverse	8.9	10.2	12.
Indices: Length, T/L.	0.96	0.94	0.96
Breadth, D/T.	0 97	0.95	0.93
Breadth, T/D.	1.03	1.04	1.05

The twenty-three babies of column three were of a foundling's home, and therefore the median values of that column would not be representative of well-nourished babies at three months.

TABLE 4.—NORMAL CHESTS; 136 GIRLS AND WOMEN.

	1	2[1]	3[1]	4[1]	5[2]	6[2]
Classification (years)	5 to 8	10 to 13	13 to 16	16 to 19	10 to 25	25 to 33
Number measured	20	10	30	23	24	29.
Median values.						
Age (years)	7	12	15	17	22	27
Weight (pounds)	...	85.	^{20}103.5	^{22}118.	132.3	130.
Standing height (cm.)	...	149.9	157.3	^{22}158.5	^{22}158.8	158.8
Sitting height (cm.)	...	...	74.9	^{22} 82.3	...	...
Diameters in centimet'rs.						
1. Length of chest, L	9.	23.8	27.	29.	29.2	30.
2. Upper dorso-vent	9.3	10.3	11.05	11.6	12.5	12.5
3. Mid dorso-vent.						
Forced inspiration	...	17.1	18.05	19.	19.4	19.5
Forced expiration	...	14.9	15.65	15.5	17.3	16.5
Repose, D	13.	16.	16.85	17.8	18.	18.
4. Mid Transverse.						
Forced inspiration	...	22.5	25.	26.	26 4	26.5
Forced expiration	...	20.	22.55	23.5	24.1	24.
Repose, T	17.2	21.6	23.	24.75	25.	25.
5. Lower dorso-vent	12.4	14.8	15.9	17.	17.	16.5
6. Lower transverse	17.3	21.	23.1	24.	22.25	23.
Indices:						
Length, T/L	0.90	0.90	0.869	0.85	0.84	0.84
Breadth, D/T.	0.75	0.74	0.73	0.72	0.72	0.72
Breadth, T/D.	1.30	1.35	1.36	1.39	1.388	1.388

1. The data for columns 2, 3 and 4 were furnished by Miss Lash, of the Chicago School of Physical Education and Expression.

2. The data for columns 5 and 6 were taken by Miss Ellsworth, principal of the Wesley Hospital School for Nurses.

TABLE 5.—PULMONARY TUBERCULOSIS; 54 MEN AND WOMEN.

	Men.			Women.		
	1	2	3*	4	5*	6*
Classification (years)	18 to 20	22 to 37	40 to 78	22 to 39	22 to 58	26 to 58
Number measured	5	16	19	6†	14	8†
Median values:						
Age (years)	19	30	50	31	32	28
	...	...	...	91.5	^{6} 91.5	...
	65.8	...	...	62.	^{6} 62.	...
	33.4	...	...	...	...	...
Centimeters.						
1. Length of chest	33.2	33.15	31.5	29.65	29·55	29.1
2. Upper dorso-vent	13.4	14.35	14.3	12.5	12.5	12.5
3. Mid dorso-vent.						
Forced inspiration	19.6	‡	‡	18.3	18.6	19.4
Forced expiration	17.6	‡	‡	16.3	17.3	17.5
Repose, D	18.55	19.5	20 2	17.17	17.95	18.25
4. Mid transverse.						
Forced inspiration	25.9	§	§	23.75	24.4	24.
Forced expiration	23.9	§	§	21.9	22.5	22.5
Repose, T	24.9	26.45	25.7	22.82	23.45	23.35
5. Lower dorso-vent	17.8	18.8	19.2	15.95	16.5	17.6
6. Lower transverse	25 5	26.8	26.5	20.95	22.15	22.8
Indices: Length, T/L	0.75	0.798	0.815	0 769	0.794	0.801
Breadth, D/T	0.745	0.737	0.786	0.752	0.765	0.78
Breadth, T/D	1.34	1.35	1.27	1.32	1.30	1.27

* In columns 3, 5 and 6 an emphysematous element must be taken into consideration along with phthisis. Most of the patients from whom observations were taken presented pulmonary tuberculosis in its very early stage. † Included in 5. ‡ Expansion less than 2 cm. § Expansion less than 1.7 cm.

TABLE 3.—THE NORMAL CHEST: 295 BOYS AND MEN.

	1	2	3	4	5	6	7	8	9	10	11
Classification (years)	5 to 8	8 to 11	11 to 13	All 14	All 15	All 16	All 17	All 19	All 21	23 to 25	25 to 33
Number measured	30	31	36	24	24	23	26	29	29	25	18
Median values.											
Age (years)	6	9	12	14	15	16	17	19	21	23	26
Weight (pounds)*	...	...	...	^{8} 104.	^{19}108.	^{18}126.	133.5	139	140.	144.5	156.
Standing height (inches)	...	...	...	^{8} 62.	^{19} 64.	^{18} 66.25	66.55	68 5	69.3	69.4	70.3
Sitting height (inches)	...	...	...	^{5} 31 6	^{6} 32 8	^{6} 35.95	^{18} 34.75	^{13} 35.5	^{6} 35.	...	...
Lung capacity (cubic inches)	...	...	...	^{5} 188.	^{6} 202.	^{6} 214.	^{18}243.	^{27}240.	^{27}240.	253.	262.
Diameters in centimeters.											
1. Length of chest, L	20.65	22.5	25.	27 35	29.2	30.5	31.65	32.	33.	33.4	33.8
2. Upper dorso-vent	9.5	10.1	10.9	11.85	12.8	13.1	13.2	13.5	14.	14.	14.45
3. Mid-dorso-vent.											
Forced inspiration	...	...	...	18 7	19.05	20.	20.65	21.	21 4	21.	21.8
Forced expiration	...	...	...	15.5	16.05	16.8	17.3	17.	17.5	17.8	18 2
Repose, D.	13.7	14 5	15.8	17.	17.6	18 4	18 9	19	19.45	20.	20.
4. Mid-transverse.											
Forced inspiration	...	...	...	24.	25.25	26.5	26.75	27.5	28.	28.5	28.55
Forced expiration	...	...	...	21 8	22.5	24.	24.55	25.5	25.9	26.5	26.9
Repose, T	18.25	19.6	21.5	23.	23.87	25.	25.65	26.	27	27.6	27.72
5. Lower dorso vent	13 35	14.2	15.15	16.	16.55	17.	17.55	17.2	18.3	18.	18.85
6. Lower transverse	18 4	19.6	21.3	22.55	23.85	24.5	25.35	26.5	26 2	26.8	28.
Indices: Length, T/L	0.883	0.87	0.86	0.84	0.817	0.81	0.81	0.81	0.82	0.82	0.82
Breadth (Hutchinson) D/T.	0.75	0.74	0.73	0.73	0.73	0.73	0.73	0.73	0.72	0 72	0.72
Breadth (Fourmentin(, T/D.	1.33	1.35	1.35	1.35	1.35	1.35	1.35	1.36	1.38	1.38	1.38

* The small figures indicate when all were not included. This also applies to tables 4 and 5.

ANALYSIS OF DATA.

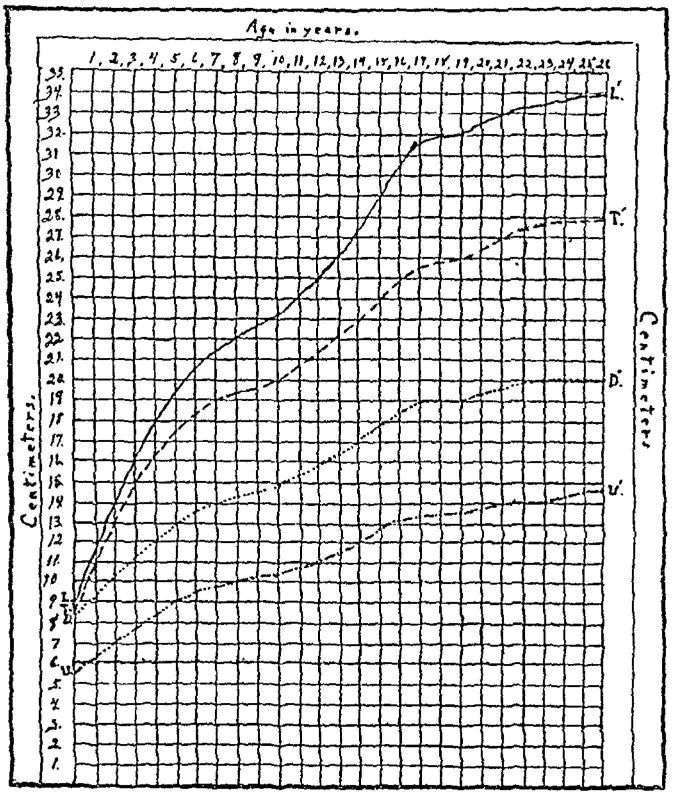
The typical quadrupedal chest with a dorso-ventral diameter distinctly in excess of the transverse, is necessitated by the backward and forward swinging of the fore limbs. This chest may be designated the deep or dorso-ventral type, represented by an index in excess of 1. See example 2.

Example 2.—The quadrupedal chest. Dogs (29 observations). Diameter dorso-vent., D, 15.2 cm.; Transverse, T, 11.7 cm.: Breadth index, D/T; 1.3. See Table 1, column 1.

The dorso-ventral type of chest is much less marked in the monkey, correlated with a frequently assumed upright position.

Example 3.—Monkeys (16 observations). D, 8.95 cm.; T, 8.55 cm.; D/T, 1.04. See Table 1, column 4.

In some of the anthropoid apes, measurements have shown a chest in which the transverse diameter is slightly in excess of the dorso-ventral. This chest may be designated the transitional type and represented as 1. (See Ex. 3.) With the change in position of the shoulder masses to the lateral aspects of the chest, and with the shifting of the scapulæ to the dorsal surface of the thorax, we see the transverse type of chest become more marked. In this type the index is less than 1.



Set of curves for graphic illustration of the course in development of the normal male chest from birth to maturity. The diameters at time of birth are: Length of chest, L=8.9; mid transverse, T=8.6; mid dorso-ventral, D=8.35; upper dorso vent., V=5.5.

The normal adult chest, with a marked increase in the transverse diameter of the mid-plane in excess of the dorso-ventral diameter of the same plane, is the type of vigor for man.

Example 4.—The normal adult chest, representing the transverse type. Men (25 observations). Mid-dorso-vent., D. 20 cm.; Mid-transvere, T 27.6 cm.; Index, D/T, 0.72. See Table 3, column 10.

We notice that in the fetus a breadth index is obtained equal to the breadth index of the anthropoidean mammal.

Example 5.—Fetuses 23. D/T = 1.018. Table 1, column 5. Monkeys, 16. D/T = 1.04. Table 1, column 4.

The full-term babe has a rounded, short chest with a slight predominance of the early transverse type.

Example 6.—Twenty-five babies; age 9 days. D, 8.6 cm.; T, 9 cm.; D/T, 0.95. Table 2, column 2.

During the first six years of child life the conspicuous feature in the development of the chest, relatively speaking, is the change in the transverse diameter, which has markedly increased. At no time before or after this period is there an equal degree of rapid change in any diameter.

Example 7.—Length and Breadth Indices Compared.

Indices	T/L	D/T	
Babies, age 2 days. (8 observations)	0.96	0.97	Table 2, col. 1
Boys, age 6. yrs. (30 observations)	0.88	0.75	Table 3, col. 1
Girls, age 7. yrs. (20 observations)	0.90	0.75	Table 4, col. 1

Having in mind the previous statement that the lower the index the longer and wider, respectively, the chest, then the change in chest diameters necessary to have brought about this drop in the breadth index over the drop in the length index, can be interpreted in no other way than the relative widening of the breadth beyond any other change. The chest has also elongated rapidly during the early years, and from the sixth year on for several years there is a gradual increase of both length and breadth, but the length develops somewhat faster than the breadth. At puberty the length of the chest takes on an active increase in growth over every other diameter, particularly in the male.

Example 8.—Influence of Puberty on Indices.

Indices	T/L	D/T	
Boys, age 12 yrs. (36 observations)	0.86	0.73	Table 3, col. 3
Boys, age 16 yrs. (23 observations)	0.81	0.72	Table 3, col. 6

By the twenty-fifth year the chest has reached its full length, and the transverse diameter which has been increasing gradually since the sixth year, and the dorso-ventral which has been deepening gradually since birth, are also now complete. In the male chest, from the twentieth to the twenty-fifth year, there is an apparent widening slightly in excess, relatively, over the increase in length, inferred from the increased length index.

The adult female chest does not reach so great a relative length as does the male chest.

Example 9.—Indices of Men and Women Compared.

Indices	T/L	D/T	
Women age 22 yrs. (21 observations)	0.84	0.72	Table 4, col. 5
Men, age 23 yrs. (25 observations)	0.83	0.72	Table 3, col. 10

By mensuration we not only learn (1) the shape and size, but also (2) the movements, and (3) the capacity of the chest.

The difference in the diameters of the chest in the mid-plane in ordinary and deep inspiration is an important factor in estimating the freedom and fullness of respiration. E. O. Otis[6] has emphasized the importance of this study in his measurements of the chest and lung capacity. Comparing normal and phthisical chests, the deficiency of expansion in the latter is first noticed.

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[6] Otis, E. O.: Measurements of the Chest and Lung Capacity, International Med. Mag., vol. iii, pp. 85.

Example 10.—Chest Expansion.

	The Normal Chest.		The Phthisical Chest. (Very early cases.)	
	29 Boys, Age 19.	29 Women, Age 27.	5 Boys, Age 19.	6 Women, Age 31.
Diameter mid-dorso-vent.				
Forced inspiration . . .	21	19.5	19.6	18.3
Forced expiration. . . .	17	16 5	17.6	16.3
Repose	19	18.	18.55	17.7
	Table 3, col. 8.	Table 4, col. 6.	Table 5, col. 1.	Table 5, col. 4.

Such a deficiency indicates the presence of a local morbid process, notably tuberculosis. Rigidity of the chest as the concomitant of pulmonary tuberculosis has been pointed out by the clinician Fothergill. In the tubercular chest the length index is less than normal, the breadth index is greater than normal.

Example 11,—The Normal and Phthisical Chests Compared.

	Age.	Length of Chest.	Dorso-ventral. Upper Plane.	Dorso-ventral. Mid-plane.	Mid-T.	Indices.	
						T/L	D/T
100 men, normal.	26	33 05	14.	19.6	27.1	0.82	0.72
21 men, early pul. tbc. . . .	27	33.17	13.9	19.05	25.6	0.77	0.742
29 women, normal	27	30.	12.5	18.	25	0.84	0.72
6 women, early pul. tbc. . . .	31	29.65	12.5	17.17	22.82	0.769	0.752

The indices alone may not readily convey the changed formation accounting for this deviation; but by noticing the median values above, it is plainly evident that the transverse diameter has failed to keep pace with the increase in the dorso-ventral diameter, and with the lengthening of the chest during and after puberty. There is an arrest in development in the usual transverse widening, which makes the tubercular chest immature. The phthisical chest is not the so-called flat chest, as the projecting scapulæ may often make it appear, but it is a narrow chest tending to the rounded form with a relative elongation.

"Broad chests have a greater expansion than deep chests"; also "broad chests have a greater capacity (volume expansion) than do deep chests."[7] The broad chest, with its attendant increased expansion and increased capacity, should offer the best resistance to the tubercle bacillus; and it is generally conceded that persons with deficient expansion are more prone to develop tuberculosis. Furthermore, a failure in the normal development most likely leads to a decreased resistance.

There being such a predilection to tuberculosis, outdoor life, climbing exercises, etc., are especially indicated to prevent pulmonary infection. An active outdoor life encourages deeper and fuller respiration, which will gradually bring about an increased chest expansion. Climbing exercises, rowing, etc., are most important means of strengthening the shoulder muscles, so that the scapulæ will be drawn back on the dorsal surface of the chest. This more favorable position, together with the increased action of all the chest muscles, will be of the greatest influence in bringing about a widening of the chest, and thus correct the static condition.

SUMMARY.

1. The method of using fixed bony landmarks for the placing of chest diameters is accurate and readily applied.
2. The use of median values for evaluating anthropometric data saves time and the results derived from this method of evaluation are more accurate than the arithmetical average.
3. Important features in the shape of the chest, as well as in the movement and the capacity, may be appreciated by an observation of its principal diameters.
4. The human chest, in the course of its development, has passed through various stages from the deep or dorso-ventral to the broad or transverse type.
5. In the fetus and young babe, the lower plane gives a greater depth and breadth than the mid-plane.
6. The fetus under 30 centimeters in length presents a dorso-ventral type of chest—it is deep chested.
7. The newborn child represents the transitional type of chest—it is round chested.
8. During the first five years of life the most conspicuous change is the rapid widening of the chest in its transverse diameter—it becomes broad chested.
9. At puberty the length of the chest takes on an active increase in growth over the other diameters—the adolescent becomes long chested.
10. From the eighteenth to the twenty-fifth year the development of the chest is fairly uniform in all its dimensions and represents the highest development—the broad long chest.
11. The dorso-ventral diameter increases at an even rate from birth to maturity.
12. The phthisical chest of adult years, in general, shows an arrest in development of the transverse diameter following puberty.
13. The phthisical chest is a narrow one, tending to the rounded form, with a relative elongation.

DISCUSSION.

Dr. Woods Hutchinson, *Redlands, Cal.*, expressed his gratification that Dr. Bessesen's independent study corroborated, in the main, the views submitted in Dr. Hutchinson's essay. Since his attention was first directed to this question by some measurements which he made of tuberculous chests, nine years ago, a number of additional data have been collected, some by himself, but more by observers on both sides of the Atlantic whose interest was aroused by the publication of Dr. Hutchinson's results in the *British Medical Journal* in 1900. These measurements now number some 700 and support with singular closeness and unanimity substantially the same conclusions which his first series of 40 measurements did—that is, that the tuberculous chest is not flat, as at first glance it appears and as most text-books yet describe it, but round, and, instead of its antero-posterior diameter being diminished, this is normal or slightly increased, while the shrinkage has occurred in the transverse diameter.

Dr. Hutchinson's first measurements indicated a normal index of about 72, but he has since succeeded in accumulating a series of tables of nearly 5,000 measurements of normal individuals, chiefly soldiers in garrisons and college students and athletes in gymnasia, and on this mass the average index is slightly lowered—namely, 70 (69.9). The measurements of the 650 consumptive chests show an average index of 78, and, with the exception of one markedly aberrant series, the other 10 averages range within one point of 80, either above or below, thus making the consumptive chest 10° rounder than the normal. As these 650 measurements have been taken in three different London hospitals, in New York, in Chicago, in Leeds, England, in Portland, Oregon, in San Francisco, and in Memphis, Tenn., they may be regarded as fairly well establishing a probable average in this disease. This shape of chest is, of course, the persistence of the child chest and represents an arrested development at about the proportions, normal in the twelfth to the fifteenth year. As Dr. Bessesen has again shown, this represents an evolution from the ancestral quadrupedal chest, which in all animals outside of the human species, except the anthropoids, some of the bats and some of the whales, is much deeper than it is wide. A similar form of chest has also been found by Drs. Evans and Hugh, of Chicago, among the paupers in Cook County Hospital, and by Arthur McGugan among the chronic insane, thus making it probable that it is the type of chest associated with arrested and imperfect development, or, as we loosely term it, degeneracy. Of this series of cases, some 70 were measured in a very early stage of the disease, and these show an index within one point of as high as the rest of the series, thus making it highly probable that this type of chest precedes the disease, although it is probably exaggerated by the increased respiratory effort and interference with proper emptying of the lungs due to the lesions of the disease. Another straw pointing in the same direction is the fact that of 31 successive cases of phthisis in his own practice, the 16 cases who did badly, 6 of them dying, presented an average index of 80.2, while the 15 who did well, 4 of them making complete apparent recovery, showed an average index of 74.6. As only 15 per cent. of the cases of tuberculosis measured failed to show a higher index than the normal, it would thus appear as if the measurements of the chest would furnish a datum of considerable value in the diagnosis of tuberculosis, and that any child or young adult presenting a higher chest index than normal, for his age, ought to be given a vigorous open-air life, with abundance of nutritious food, and every measure taken which would promote normal development and the attainment of full vigor. The round infantile chest and the small pubertal heart make the *habitus phthisicalis.* An exaggeration of this type of chest, due to the lateral pull of the diaphragm, gives rise to the pigeon breast or rachitis and adenoids.

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[7] Malone, F. F.: The Relation of Chest Contour to Lung Capacity. The Journal A. M. A., vol. xliii, Sept. 17, 1904.

MYOMA OF THE ESOPHAGUS.*

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Though myoma of the esophagus probably is not very rare, comparatively few cases have found their way into medical literature. That it is not common is shown by the fact that in the large number of autopsies recorded during the past five years at the Boston City Hospital, the Long Island Hospital and the Harvard Medical School, but two cases of myoma of the esophagus occur. On this account, it seems advisable to publish reports of these two cases and briefly to review those previously reported.

Case 1.—A. J., male, aged 60, was admitted to the Long Island Hospital Nov. 22, 1902, in a moribund condition. Physical examination showed extreme cyanosis, edema of lower extremities, weak irregular heart sounds, and dullness with diminished breath sounds over both backs. The patient failed to respond to treatment and died at 2:35 a. m. November 23.

Autopsy.—November 26, by Dr. G. B. Magrath. L. I. H. 02.112.

Anatomic Diagnoses: Deformity of thorax; edema of legs and scrotum; chronic adhesive pleuritis; hydrothorax; hydropericardium; hypertrophy and dilatation of right ventricle; emphysema and edema of lungs; chronic passive congestion of spleen, intestines, liver and kidneys; ascites; leiomyoma of esophagus; general arteriosclerosis.

Digestive Tract: The stomach on its outer aspect at a point near its junction with the esophagus and above the lesser curvature presented a mass of the size of a horse chestnut, which on dissection was found to be continuous with the wall of the esophagus and showed a fleshy, somewhat striated, cut surface. (Changes in the other viscera were as indicated in the anatomic diagnoses.)

Case 2.—A. D., female, aged 62, was admitted for senile insanity to the Boston Insane Hospital three times during the five years beginning Aug. 22, 1900. On the last admission she complained of stomach trouble and ate little, presumably on account of delusions of poisoning. In the hospital she complained a good deal of pain in her abdomen. Ten days before her death, which occurred Jan. 27, 1905, she had an attack of nausea, and vomiting, which was persistent and continued until death. During the last twenty-four hours there was a slight showing of dark blood in the vomitus; otherwise none at any time.

Autopsy.—January 28, by Dr. E. E. Southard, N. 05.29.

Anatomic Diagnoses: Stricture of esophagus from pressure by leiomyoma; tumor (leiomyoma) nodules at cardiac orifice and on fundus of stomach; ulcer at cardiac opening of stomach; small healed ulcer of fundus of stomach; emphysema of lungs; edema of pia mater; chronic diffuse nephritis; biliary calculi; chronic tuberculosis of both apices of lungs; calcified thrombi in splenic artery; submucous polyp of uterus; chronic localized peritonitis.

Digestive Tract: The esophagus measured 7 cm. at a level 12 cm. above the cardia, 3 cm. at level, 9 cm. above cardia and widened to 6 cm. at level, 7cm. above the cardia. Opposite, to the right of and behind, the stricture (the middle point of which was about 14 cm. below pharynx) was a dense ovoidal mass (Fig. 1), measuring 3.2 by 3 by 2.5 cm., smooth, loosely encapsulated, mottled gray-pink externally, cutting like a uterine fibroid, with a gray section surface which was coarsely fasciculated and varied a little in translucence, according to direction of bands. There was no invasion of surrounding structures by the mass. The mucosa of the whole esophagus was evenly reddened.

Just above the cardia, which measured 6 cm., was a flattened, bean-shaped mass, 1.4 by 0.7 by 0.5 cm., inclosed between the mucosa and the outer wall of the esophagus, set transversely to the axis of the esophagus on the right side. Opposite this mass was a shallow ulcer, 1.5 by 0.7 cm., with smoothly curving, reddened, slightly raised border and a clean base.

The stomach wall, in the main, was well injected and normal. The stomach measured 25 cm. from cardia to pylorus and 19 cm. in the greater circumference. There was a subperitoneal nodule measuring 1 by 0.8 by 0.7 cm., in the anterior wall of the fundus 8 cm. below the cardia. A smooth, dimpled scar, not over 0.5 cm. in diameter, united the normal-looking peritoneum and mucosa about midway of the anterior surface of the fundus. (Changes in the other viscera were as indicated in the anatomic diagnoses.)

Microscopic examination of the tumors in these cases showed the usual structure of leiomyomata. Bundles of smooth muscle cells ran in various directions to interlace with each other. With these there was a moderate amount of fibrous tissue best shown by Mallory's anilin blue connective tissue stain.[1]

There was no evidence of rapid growth or malignancy. Sections from Case 2 stained by the phosphotungstic-acid-hematoxylin method show fairly well-preserved myoglia fibrils, further indicating the smooth muscle character of the tumor.

In Case 1 there were no symptoms referable to the myoma, and the autopsy showed no signs of obstruction to the esophagus. In Case 2 there were symptoms, at least late in life, of obstruction of the esophagus, and at autopsy this was borne out by the moderate dilatation of the esophagus above the tumor. In Case 1 there was a single tumor, while in Case 2 there were multiple tumors. In both, the tumors appear to have developed in the outer coat of the esophagus. Both patients were old people.

In the literature it has been possible to find nine cases of leiomyoma of the esophagus as follows:

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

* From the Sears Laboratory of Pathology, Harvard University Medical School.

[1] All staining methods used are to be found in Mallory and Wright's Pathologic Technic, 3d edition.

Eberth[2] reported the case of a patient, aged 50, with no symptoms during life referable to the tumor of the esophagus. At autopsy a leiomyoma was found situated at the lower end of esophagus, touching the cardiac end of the stomach and measuring 9.1x11.9x3.5 cm. The tumor half surrounded a dilated esophagus, and consisted of bean-sized nodules bound together by connective tissue.

Coats[3] reported a case of a man, aged 61, with symptoms of obstruction and death from inanition. At autopsy a pedunculated tumor was found attached 6¾ inches below the glottis and extending to the cardiac orifice of the stomach. The tumor measured 4¾x2x1 inch. The esophagus was much dilated. The tumor was made up of spindle cells and a small amount of connective tissue.

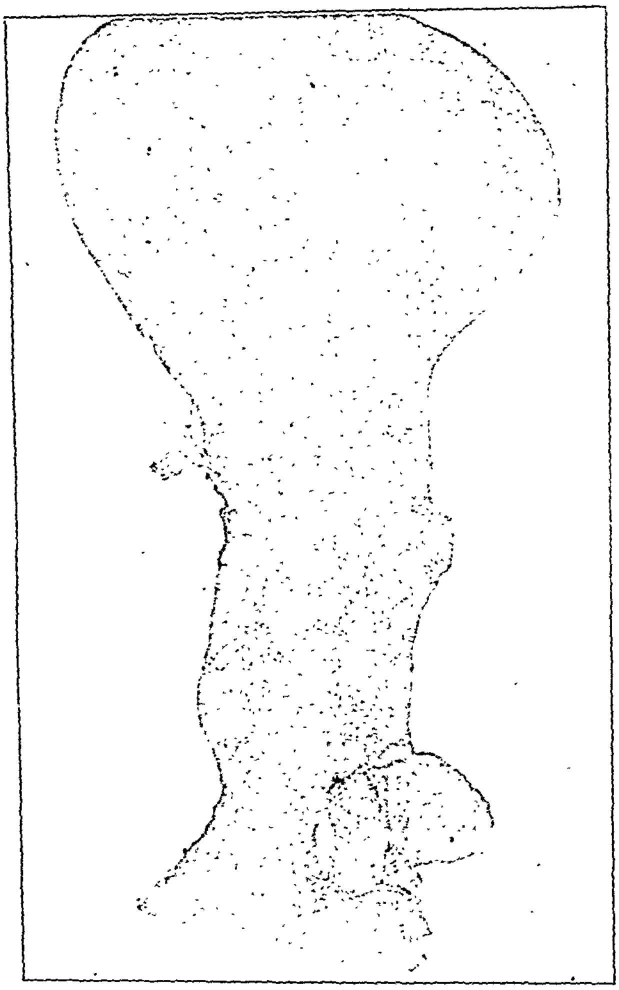

Fig. 1.—Myoma of esophagus from Case 2.

Fagge's[4] patient was a man, aged 37, with no symptoms during life. At autopsy an egg-shaped tumor 2x1¼x1 inch was found just below the level of bifurcation of the trachea. Microscopic examination showed a smooth muscle structure.

Meyer's[5] patient was a woman, aged 78. There were no symptoms during life. At autopsy a tumor was found in the upper part of the esophagus beginning at the level of the thyroid. The tumor measured 8x4x2.5 cm. Microscopically, it was composed of smooth muscle.

Illig's[6] patient showed no symptoms during life. At autopsy a tumor was found at the level of the bifurcation of the trachea, almost surrounding the esophagus and measuring 5x5.5x2 cm. Histologically, it was composed of smooth muscle.

Pichler[7] reports the case of a man, aged 50, in whom there were no symptoms during life. A tumor was found 11 cm. below the arytenoid cartilage, composed of a mass of nine nodules, each from 2 to 17 mm. in diameter, bound together by connective tissue. Below these there were five scattered nodules.

Virchow[8] reports a case in which there was a myoma in the lower part of the esophagus, measuring 5 lines in diameter.

Förster[9] and Trastour[10] reported cases, but the details are not accessible.

This makes eleven cases of myoma of the esophagus. In seven the age is stated, and of these six patients were 50 or over; the others were 37. In six the sex is given, four were male and two female. In only two were there symptoms of obstruction. Of nine in which the situation is mentioned, only one occurred in the upper one-third of the esophagus, the others were in the lower third. In two patients there were multiple separate tumors.

In conclusion, I wish to express my thanks to Dr. H. A. Christian for suggesting this study and for assistance in its completion, and to Drs. S. W. Crittenden, G. B. Magrath and E. E. Southard for notes on the cases.

REPORT OF COMMITTEE ON PROPRIETARY MEDICINES.*

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In the report of this committee made last year, the fundamental principles which should govern physicians in the employment of proprietary medicines were presented, and their adoption by the section was the first concrete result from several years of speculation. The enunciation of these principles, no doubt largely aided, if they did not influence, the Board of Trustees of the A. M. A., which, through the Secretary, the Editor of The Journal, authorized the organization of the Council on Pharmacy and Chemistry for the purpose of taking up this question in a practical manner.

During the five months the Council has been at work, many phases of the proprietary-medicine question have come up for consideration, but the one which to our mind is the most important, and which it is thought most apropriate to bring before the Section is that of the nomenclature of this class of medicines.

In order intelligently to discuss the subject, it is desirable briefly to enumerate the different kinds of names and the methods of naming medicinal articles, together with such legal considerations as these involve.

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[2] Eberth: "Grosses Myom des Oesophagus," Arch., f. path. Anat., etc., 1868, vol. xliii, p. 137.

[3] Coats: "Large Polypoid Myoma of the Esophagus," Glasgow Med. Jour., 1872, vol. iv, p. 201.

[4] Fagge: "Case of Myoma of the Esophagus," Trans. Path. Soc., Lon., 1874-5,. vol. xxvi, p. 94.

[5] Meyer: "Ueber einen Fall von Myom des Oesophagus," Inaug. Diss., München, 1882.

[6] Illig.: "Die Myoma des Oesophagus," Inaug. Diss., Giessen, 1894.

[7] Pichler: "Einen Fall von multiplen Leiomyomen des Oesophagus," Prag. med. Woch., 1897.

[8] Virchow: Die Krankhaften geschwülste, vol. iii, p. 126.

[9] Förster: Wiener. med. Woch., 1858, vol. ix, 131.

[10] Trastour: "Tumeur de l'oesophagus; myome avec points calcifiés," Bull. soc. anat. de Nantes, 1880, vol. iv, p. 7.

* Read in the Section on Pharmacology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

SCIENTIFIC OR DESCRIPTIVE NAMES.

The necessity for naming substances used in medicine according to a systematic plan is as essential in this as in any other branch of medical science.

The natural history sciences, botany, zoology and mineralogy, and chemistry, physics and pharmacy, all contribute to the vast number of substances used in the prevention, treatment and cure of disease. All of these sciences have their respective nomenclatures, which are an integral part of each; in fact, so much so that it is said that a superficial knowledge of these branches is often acquired simply by mastering the terminology. It is self-evident that no study of the sciences can be satisfactorily pursued without the terminology; it is the language, the expression of which gives to each substance or subject its identity, character and meaning, and affords methods of differentiation and distinction.

These terms are derived from the dead languages, chiefly because of their stability, their flexibility, and because being learned through the classics are familiar to all, and, therefore, are in a degree the universal languages.

While these facts are of such common knowledge that their mention should carry an apology, they are constantly ignored and their privileges violated in the naming of medicines.

While names must be formed to designate new substances or to indicate newly discovered facts and subjects, in the case of medicinal substances, the names should at least have the origin or derivation for their basis.

While the early generic names of plants were chosen rather arbitrarily, the differentiation of their species as a rule is indicated in their specific names. The confusion of some vernacular plant names is too great to be tolerated, as, for example, cocoa (cacao), coco (nut) and coca, three as distinctively different plant substances as could be imagined. While Alexander von Humboldt, when he discovered the chocolate nut named it theobroma (God's drink), and cacao, after the native Indian name, it has always been confused with the cocos nucifera, the milk-bearing cocoanut; and the oil of theobroma is to-day called cocoa-butter, instead of cacao; while coca, the leaves of erythroxylon coca, whence cocain is obtained, is designated officially as erythroxylon.

The vernacular names of plants are so unreliable as to prohibit their use in medicine; sometimes similar names are applied to entirely different plants in different locations. There are, for example, ever so many different snake roots, viz., black, Canada, senega, Virginia, white, etc. Who could be certain of their identity unless they could be designated, respectively, cimicifuga, asarum, senega, serpentaria, etc.? No physician could safely order of these drugs without using the Latin name, or, in the case of official drugs, the Anglicized Latin titles.

In the same way, the principles of plants are named after the Latin name, usually the generic name, in the case of alkaloids, glucosides or neutral principles, and when a second one is discovered it is usually named after the specific name, such as pilocarpin and jaborin from *Pilocarpus jaborandi.* There are some exceptions to this, as, for example, morphin, named by Serturner for "the God of Sleep," it being the first alkaloid discovered. One hundred years ago no system of nomenclature for these principles had been evolved.

CHEMICAL NOMENCLATURE.

With chemical substances it may, indeed, be said that the nomenclature is the fundamental part of their knowledge. While the elements have been more or less arbitrarily named, yet there is a significance or meaning in the name of every element, devised by its discoverer from some physical or chemical property. Before the chemical terminology now *en vogue,* devised by Berzelius, the exact relation and distinction of chemical compounds was not clear, but with a better conception of chemical facts and theories a nomenclature was devised which made possible the systematic study of chemistry, and subsequently by the type theory of Dumas disclosed the infinite relations of the organic compounds. To study chemistry without understanding the nomenclature, would be as absurd as to attempt to study the human body without being familiar with anatomy. To name chemical substances without designating them in chemical terms is not only unscientific, but often misleading. No physician can safely order any chemical substance without the possibility of error, except in correct chemical terms; besides, he loses the great advantage in the use of chemical terms indicating the chemical properties, and consequently often their chemical reactions and even their therapeutic virtues.

While this should always be the aim in naming inorganic compounds, as well as many organic salts, it is not always practicable with that extensive and constantly growing list of chemicals commonly called synthetic. Owing to the complexity of the molecules of many of these, the complete chemical names can not always be used and the manufacturers employ a contracted name, or substitute a more or less arbitrarily selected title, which is also usually registered as the trade-mark of the article. The new United States Pharmacopeia furnishes several illustrations of such titles having been formed by the contraction of the chemical names: Acetphenetidinum for acet para phenetidine or phenacetin. Benzosulphinidum for benzoyl sulphonicimide or saccharin. Hexamethylenamine for hexamethylentetramine or urotropin. Methylthionina for tetramethyl-thionine or methylene blue. Sulphonethylmethanum for diethyl sulphone methylethylmethane or trional. Sulphonmethanum for diethyl sulphone dimethylmethane or sulfonal.

The deletion of the Greek numbers and adjectives in these titles does not impair their value, at least for the purposes of medicine and pharmacy, and though somewhat unwieldy, yet they certainly should be given the preference over coined and arbitrary titles, especially since these are usually protected by registration as trademark or by copyright.

PHARMACEUTICAL NOMENCLATURE.

There remains now for consideration only the nomenclature of the special forms required for the administration or therapeutic application of these drugs or natural substances of organic origin, and their various principles and educts and the chemical products. This is distinctively pharmaceutical, that is, their preparation, compounding and dispensing constitute pharmacy. Since the time that Galen first prepared the plant extracts, from the *elixir proprietatis* of Paracelsus to the latest form of elegant medicinal tablet or bon-bon of *"fin de siecle"* pharmaceutic art, a nomenclature has been evolved which is, perhaps, as well established and comprehensive for pharmacy as that of any other science or profession. The nomenclature of pharmaceutical preparations, moreover, is given an advantage and prestige enjoyed by scarcely any other science, in that it has legal standing in every country through their pharmacopeias.

The pharmacopeias, as is well known, are the legal authority for medicines in their respective countries, which gives to the nomenclature a significance and meaning scarcely realized. There are in the United States Pharmacopeia over thirty different classes of preparations and extra-officially nearly as many more modifications of these official preparations. Yet, the question may well be asked, Have these pharmaceutical terms a purpose? If so, why are they constantly ignored? Manufacturers either ignore them or vie with each other in coining new names to substitute for them. The pharmaceutical nomenclature keeps step with therapeutic science; as soon as a new name for a new form of preparation is required, the pharmaceutical literature quickly responds and the name appears. It is safely asserted that there is not a single medicinal preparation now offered to the medical profession which could not be classified under the present nomenclature. Is it because the terms, tincture, liquor, elixir, syrup, spirit, fluid extract, pill, powder or ointment, are too simple, too commonplace, or hackneyed, and have lost their charm, or is it that the manufacturers seek to evade them in order better to be able to palm off some of these classes of preparations under mysterious and captivating titles, possibly a cloak for some old-time mixture of doubtful composition and questionable therapeutic virtues?

It is recommended that every medicinal article have a scientific title or descriptive name, and that the exclusive control of an article through registration of the name as a trade-mark or through copyright, be regarded as a perversion of the purpose and function of the patent laws. The greatest manufacturers, those who have attained the greatest reputation, prestige and patronage of the medical profession, even to-day, are those who rely on their names as the criterion for the quality of their products. What trade-name product has ever enjoyed the reputation of Powers & Weightman's quinin, Rosengarten hypophosphites, Mallinckrodt's potassium iodid, Squibb's chloroform, Parke Davis & Co.'s fluid extracts, Wyeth's elixirs, etc.? Manufacturers are short-sighted to ape the methods of the anonymous and pseudochemical companies in employing trade names, thus losing the prestige their names would confer on any other products they may introduce from time to time.

ACUTE HEMORRHAGIC PANCREATITIS.*

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In the following case the woman was a patient at this institution under the care of Dr. Stockton, who makes the following clinical report:

Patient.—The woman, aged 55, was admitted to the institution ten years ago. She had delusions of persecution, hallucinations of sight and hearing and was restless, sleepless, dull and melancholy.

History.—Little is known regarding her life and condition previous to admission, but from what could be gathered from herself and from the commitment papers the indications are that she had led a dissolute, immoral life and that she was addicted to the use of morphia. From the time of her admission until the onset of her illness her physical health was good except for a moderate constipation which required the use of a mild purgative from time to time. Mentally there were no marked alterations, but she manifested some retardation of thought and occasional periods of irritability and quarrelsomeness, with obscene and immoral talk. On arising on the morning of March 14, 1904, she complained of feeling ill and suffered from nausea and vomiting, but was up and about until 11 a. m., when she began to complain of great pain and distress in the region of the stomach, aggravated when lying on the back, and of more or less tenderness on examination. The severity of the pain was such that an opiate was necessary to relieve it. At 6 p. m. the temperature was 102.6 and pulse 130, with but little alteration in the local or general condition. Vomiting continued, the vomit matter being bile-stained. The pain was dull and aching, its acuteness probably lessened by the opiate. The following morning there was considerable tympanitis, rigidity and tenderness, most marked in the epigastric region, and general jaundice supervened. Vomiting had somewhat lessened. The pain was still dull and boring in character. While attempting to get out of bed about 11 a. m. she suddenly became semi-conscious and died in a very short time.

Autopsy.—The autopsy, performed three and one-half hours after death, revealed the following condition:

The body was that of an adult female, white, apparent age 55, weight 145 pounds, height 5 feet 5 inches. The body was well-developed, well-nourished and rather fleshy. There was considerable general jaundice. There was postmortem rigidity in the neck, hands and feet. Postmortem lividity was slight posteriorly. The abdomen was prominent, tense and tympanitic. Liver dullness was indefinite.

On opening the abdominal cavity, the omentum and the intestines protruded. The intestines were considerably distended with gas. The omentum and peritoneum were of a pink, light-red color, and a thin, dark-red, odorless fluid ran out of the incision. About 350 c.c. was diffused through the general peritoneal cavity. The appendix was 6 cm. long and lay to the inner side of the cecum, curled behind the lower end of the ileum, and was apparently normal. The pyloric half of the stomach, the duodenum and the transverse colon were pushed forward by a dark-red, rather soft mass, lying posterior to them, and apparently involving the whole of the pancreas. Scattered throughout the omentum, the mesentery and the walls of the stomach and intestines were numerous small, white nodules, varying in size from a pin head to a split pea, rather soft, white on section, and most abundant in the neighborhood of the pancreas. All the structures in the immediate surroundings of the pancreas were intensely swollen and edematous and infiltrated with a fluid similar to that lying free in the peritoneal cavity. The infiltration and edema extended into the retroperitoneal tissues, surrounding both kidneys, and down into the postcecal tissue on the right side, giving the whole a boggy, sodden appearance and a dark-red color. The mass involving the pancreas consisted of coagulated blood diffused through the whole of the pancreas, except a very small portion of the head and tail. The source of the bleeding could not be found. The mucous membrane of the stomach and intestines were pale in color, swollen and edematous.

The liver was of a pale, yellowish-red color, softened. The lobules were indistinct. The gall bladder contained about 20 c.c. of dark, reddish-brown bile and a moderate number of small, brown-colored calculi. The bile ducts were patent and opened by a separate orifice from that of the pancreas into the duodenum.

The spleen was slightly softened, and the splenic artery and vein were filled with coagulated blood.

The kidneys contained several small cysts and were markedly congested. The bladder contained a few centimeters of slightly albuminous urine, but no sugar.

Apart from the abdominal conditions, there was some fatty infiltration of the heart, marked atheromatous degeneration of the large arteries, with some calcareous deposit, bilateral chronic pleuritic adhesions, cicatricial contraction of the lower lobe of the right lung, excess of cerebrospinal fluid, considerable subarachnoidal exudate and marked atheroma of the arteries at the base of the brain.

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* Read before the Marion County Medical Society, Indianapolis.

REMARKS.

Incomplete as the clinical report is, it yet indicates some of the most prominent symptoms that should lead one to suspect an acute involvement of the pancreas. The onset of this condition is usually sudden, but may be preceded by epigastric uneasiness for a day or two. It occurs more frequently in adult males, and particularly in fleshy people. It usually begins with abdominal pain, which is intense, more or less diffuse and persistent, with paroxysmal exacerbations. It is increased by movement, and is associated with well-marked tenderness above the umbilicus, distention of the superior abdominal region and by vomiting. Nausea and vomiting are early symptoms and increase in severity. No relief follows the act of vomiting. The vomited matter consists of food and mucus, later of bile and blood in various stages of degeneration.

A condition of collapse soon follows. The abdomen usually becomes distended and tender. The bowels, as a rule, are constipated, rarely there is diarrhea. Slight jaundice is usually present and increases the longer the patient lives. The mass may be palpable but usually the distention and tenderness are so great as to render palpation very difficult, if not impossible except under anesthesia. Severe attacks are usually fatal in 24 hours. When less acute, a gangrenous condition is often produced and proves fatal in from two to five days from absorption of the toxic material. When the condition is still less acute it may lead to abscess formation, or become subacute, or chronic; and in mild forms it may lead to resolution and recovery.

The hemorrhage may precede or take place during the inflammatory process. If it precedes the inflammation, the bleeding is usually within and without the glandular substance, and usually runs an extremely acute course. If it occurs during the inflammatory process, the bleeding is less profuse and runs a less acute course.

The diagnosis is difficult, as there are several conditions with a similar group of symptoms. The principal ones are: 1, Acute ptomain poisoning; 2, perforation of a gastric or duodenal ulcer; 3, gangrenous appendicitis; 4, phlegmonous cholecystitis; 5, acute intestinal obstruction.

Judging from the important part taken in the digestive process by the pancreatic secretion that is discharged into the duodenum, and in the process of metabolism by the internal secretion that is given off by the pancreas to the blood or lymph stream or both, one would expect that the clinical manifestations of a diseased condition would be so characteristic that a diagnosis would be comparatively easy, but there are several reasons why this is not the case:

1. The pancreas is rarely involved in a pathologic process without other organs being affected, particularly the biliary ducts, the stomach, and the duodenum.
2. Every function performed by the pancreas can be performed to some extent by some other organ in the body except the glycogenic function.
3. The greater portion of the gland may be destroyed and yet the remaining portion apparently may be able to carry on the normal function of the entire gland.

While these conditions may give rise to very conflicting and perplexing combinations of symptoms, yet there are some pronounced features manifested which should lead one to suspect a diseased condition of that special organ. Fitz has laid down a rule that when a previously healthy person or sufferer from indigestion is suddenly seized with violent pains in the epigastrium, followed by vomiting and collapse, and within twenty-four hours by a circumscribed epigastric swelling, tympanitis, and resistance, with slight rise of temperature, one should suspect acute pancreatitis.

In a lecture delivered before the Royal College of Surgeons of England, Mr. P. J. Cammidge[1] stated that there were present in the urine certain products which were almost if not quite pathognomonic of acute pancreatitis. His method of examination to prove their presence is as follows: To 10 c.c. of filtered urine is added 1 c.c. of strong hydrochloric acid, boiled gently for 10 minutes on a sandbath. A mixture of 5 c.c. of filtered urine and 5 c.c. of distilled water is then added and the whole cooled in running water. The excess of acid is then neutralized by slowly adding 4 grams of lead carbonate. The whole is again filtered, the flask rinsed with 5 c.c. of distilled water. To this are now added 2 grams of sodium acetate and 0.75 gram of phenylhydrazin hydrochlorate and boiled for three to four minutes on the sandbath. It is then poured into a test tube and allowed to cool undisturbed, when a flocculent precipitate forms consisting of rosettes of golden-yellow crystals. The presence of sugar of albumin must be previously gotten rid of, as these substances interfere with the process and the results. As somewhat similar results are obtained in patients suffering from certain diseases in which active tissue changes are going on, a differentiating test must be applied, which consists in taking 20 c.c. of filtered urine and adding 10 c.c. of saturated aqueous solution of mercuric chlorid, filtering. To 10 c.c. of the filtrate add 1 c.c. of strong hydrochloric acid and boil as in the former process. It is then diluted with 5 c.c. of the former filtrate, and 10 c.c. of distilled water, cooled and treated as in the former instance.

The practical results of these examinations of the urine by these two methods Cammidge summarized as follows: If no crystals are obtained by either method the pancreas is not at fault, and the explanation of the symptoms must be sought for elsewhere. If crystals are obtained by the first method and not by the second, active inflammation of the pancreas is present and surgical interference is generally indicated. In acute inflammation of the pancreas the crystals are fine and dissolve in a 33 per cent. solution of sulphuric acid in about thirty seconds. In chronic inflammation the crystals are coarser and dissolve in one to two minutes. If crystals are obtained by both methods there may exist: 1, Malignant disease of the pancreas; 2, chronic disease of the pancreas; 3, non-pancreatic diseases.

In malignant disease the crystals are very coarse, and require from three to five minutes to dissolve, and operation is contraindicated. In chronic inflammation the crystals are smaller and dissolve in from one to two minutes. In non-pancreatic disease the crystals dissolve in one minute. Thus it seems that the size of the crystals and their solubility are directly dependent on the acuteness of the inflammatory process.

As regards the treatment, the pathologic condition indicates that practically only one line of treatment can be beneficial, and that is evacuation of the septic material, arrest of the hemorrhage, and free drainage by surgical methods. Even though the mortality following operation in the acute stage is very high, 36 out of 59 operative cases proving fatal, yet when one considers the fact that the disease almost invariably ends fatally when not treated surgically, an operation is strongly indicated.

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[1] Cammidge: Lancet, July 1, 1905; abstracted in The Journal, A. M. A., July 29, 1905, p. 359.

POISONING DUE TO THE PAPAW (*ASIMINA TRILOBA*).

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Some seven or eight years ago, in late summer, I found in this vicinity several fruits of the common papaw which had fallen to the ground and ripened prematurely. The fruit was ripe enough to be palatable, and I ate a small portion, perhaps equivalent to one fruit. About six hours later I experienced an urticaria, beginning with itching and burning in the hair at the back of the head and soon extending over a considerable part of the body. Accompanying symptoms were nausea, throbbing at the head and disturbance of the bowels. The urticaria would at times diminish suddenly; then the nausea would increase, to be relieved a few moments later with the reappearance of the "hives." The symptoms lasted several hours, but they had almost wholly disappeared by the next morning and the skin had resumed its normal condition. A friend ate some of the fruit at the same time that I did, but suffered no ill effects whatever.

I had never before experienced similar symptoms, and I suspected the papaw; but I was not sure of the cause until, a season or two later, I had an opportunity of repeating the experiment. This came when, visiting the same grove at about the same time of the year as on the former occasion, I found similar fruits and ate a small quantity to test the effect. The same train of symptoms followed after about the same interval of time, though this time the illness was considerably more severe, and I experienced a decided faintness along with the symptoms of the previous case.

In the autumn of 1904 I undertook some more systematic experiments on the nature of this poisoning. It seemed to me worth while to investigate the matter for the sake of any information I might be able to obtain on the general question of poisoning resulting from individual susceptibility to the action of certain fruits, especially since I had a subject so conveniently at hand. I desired particularly to find out if repeated poisoning confers any immunity on the susceptible person, and to ascertain if any particular condition of the fruit is necessary in order to cause the illness. I have eaten ripe papaws since childhood, but had never before experienced poisoning from them or from any other fruit. I was also interested in the papaw itself; for, while not altogether a popular fruit, it is much eaten in many parts of the Mississippi Valley, where it is abundant, and some attempts are being made to cultivate it and obtain improved varieties of the species.

The following is a brief summary of my experiments:

October 1. Ate small portions of several fruits. Eleven hours later I experienced urticaria and some of the other symptoms noted above, but the illness was very mild.

October 7. Ate 24 grams of fruit brought to me from a locality at some distance from the source of the fruits used in the other experiments. The fruit was probably picked up from the ground, because it was slightly blackened on one side. After about ten hours I experienced urticaria with slight nausea, but the symptoms were comparatively insignificant.

October 10. Ate 21 grams of the same fruit, which had been kept in a refrigerator since October 8, and had ripened somewhat in the interval. No effect.

October 15 to October 18. Ate a whole fruit ripe from the tree and a whole fruit ripe from the ground. Also ate a whole fruit not fully ripened at the time of collection, but allowed to ripen three days after gathering, and ate 21 grams of a fruit taken green from the tree.

In none of these four experiments was there any effect. All of these experiments were made with fruit apparently in a normal condition, and differing only in the degree and manner of ripening.

On account of all these failures I began to suspect that I might have acquired some degree of immunity to this fruit, but the next experiment disproved this theory.

October 19. Ate 23 grams of a fruit which had fallen prematurely from the tree. The quantity eaten was equivalent to about one-third of a fruit of average size. It had been kept four days at room temperature and had ripened somewhat at the center, but the outer part was still hard. Its taste was bitter.

The effects began to be noticed three and one-half hours later. An urticaria began on the crown of the head, then appeared on the body where suspender or garter pressed the skin. Then it spread over the whole body, the face, hands and feet being the latest to be covered. Nausea with vomiting, faintness, chill and disturbance of the bowels followed, the symptoms being decidedly more severe than in any previous case. The following day little remained of the illness, except that the face and hands were slightly swollen, the throat a trifle sore and the skin ready to break out into a mild urticaria on irritation.

This experiment, the most decisive of all, indicated that the four previous poisonings, two of them within twenty days, had not conferred any great degree of immunity; and, further, that an abnormal condition of the fruit seems, in my case, at least, to be necessary in order that poisoning may take place.

During the autumn of 1905 I resumed the experiments, trying smaller doses of fruit similar to the one which had caused the poisoning of the previous year.

September 11, I ate 3 grams of such fruit, and September 12, 10 grams of the same specimen kept on ice over night. October 10, I tried 25 grams of a fruit taken from the tree soft but not fully ripe.

In none of these experiments was there any effect. It would seem that the dosage was too small, or more probably, the fruit not in the condition in which it is poisonous for me.

During the past year or so I have made many inquiries of physicians and others in regard to poisoning from this fruit, and I have learned of fifteen or twenty cases attributed to this cause. Dr. Cleveland of Burlington, Kan., a locality where the papaw is abundant, told me of two cases, in one of which he found the patient unconscious. On recovery to consciousness the patient exhibited urticaria. Dr. Manson of the same locality reports several cases of poisoning due sometimes to eating the fruit and sometimes to the mere contact of the surface of the fruit to the skin. Dr. J. E. Buckman of Modesto, Ill., wrote me of three cases which he attributes to the eating of papaws. In all three cases the patients reported that the fruit they had eaten was so ripe that the surfaces had begun to turn black. One case was characterized by fever, a burning sensation in the stomach and throat, with an eruption on the membrane of the throat. There was an eruption externally also, especially on the face where pustules formed which were large and slow to heal. The other two cases exhibited similar characteristics, except that there was no internal symptoms. Both patients stated that they had been poisoned before by papaws.

Professor Havenhill of the department of pharmacy in the University of Kansas has reported a case to me in which an urticaria appears several days after eating the fruit whenever the skin is irritated. Mr. Benjamin Buckman, a horticulturist of Farmingdale, Ill, reports to me that poisoning from papaws occurs in his family and that one member is affected by merely being in a room with the fruit without any contact with it. I am told that there are persons who can eat the fruit with impunity if care is taken to avoid touching the face with the exterior of the fruit, and it is believed by some that persons who are susceptible to ivy poisoning are more likely to be sensitive to the papaw. In my own experiments I have several times rubbed the skin with the surfaces of fruit, but never noticed any effect. I am not in the least subject to ivy poison.

Horticulturists report two varieties of papaw, in one of which the mature fruit has white flesh, in the other yellow; and one person told me that there is a notion current that white-fleshed variety is poisonous to susceptible persons, while the yellow-fleshed one is harmless. I have been unable to get any confirmation of this view. In only a few cases could I get exact data regarding the condition of the fruit eaten, but it is presumed that the fruit was in most cases ripe, since the unripe fruit is hardly palatable.

Many persons whom I have interviewed on this subject had lived where papaws are abundant, and had been accustomed to eating them, but had never heard of poisoning of any kind resulting from their use, and the majority of physicians of whom I inquired have never had a case of this kind. So it may be presumed that severe poisoning is comparatively rare, and that the milder poisoning may often be attributed to some other plant.

Summarizing the results of my observations and experiments, it may be stated that poisoning due to the papaw exists, but a special predisposition on the part of the person is necessary. The surfaces of the fruit may act as an external poison as well as the pulp an internal, though persons susceptible to the one form of poisoning are not necessarily susceptible to the other. The condition of the fruit is, with some persons at least, of importance; and there is evidence that normally ripened fruits are less likely to be harmful. The symptoms of internal poisoning resemble those of poisoning due to oysters or strawberries in susceptible persons, and in my case there was some relation between the strength of the dose and the promptness with which the symptoms appeared. There could hardly be any question of ptomain poisoning, since the fruits which were poisonous to me, at least, were rather under than over-ripe; and in one experiment a fruit which had caused illness became harmless in nearly the same dose after ripening somewhat. The external poisoning varies from a mild urticaria to a condition resembling severe ivy poisoning. There is no evidence of immunity resulting from previous attacks.

Resection of Thirteen Feet of Intestine.—The *Semaine Médicale* states that Pauchet of Amiens recently resected a part of the ileum, on account of irreducible hernia, in a man rather below the ordinary height. The resected portion measured exactly 4 meters, or more than 13 feet. The patient was affected with diarrhea when he was dismissed and resumed his usual diet, but it was controlled by a drier diet. Our exchange thinks that this is the most extensive resection of the kind on record.

New Instrument

AN INHALER FOR ETHERIZATION

BY THE OPEN DROP METHOD.

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It is not the purpose of this article to discuss the merits or advantages of the different methods of producing anesthesia by the inhalation of the vapor of ether. Whatever advantages may be claimed for the semi-open method or for the closed method, a large number of surgeons and anesthetists prefer the open method, which, to be of advantage, must be conducted by dropping the ether for inhalation rather than by pouring it into the inhaler. The number of those who prefer this open drop method is increasing, and while inhalers for the other methods are in abundance and modifications of the old ones are constantly being made, little has been done in the development of an inhaler for the open drop method.

Dr. Laplace, of the Medico-Chirurgical Hospital in Philadelphia, devised an inhaler for this method and deserves credit for the ingenuity manifested in producing so excellent an apparatus, but, ordinarily, no special mechanism is employed. Many etherizers practice the method of laying over the face a certain number of layers of surgical gauze and dropping the ether on them. To prevent irritation of the skin it is necessary to anoint the patient's face with some unguent, which, as a rule, permeates the lower layers of the gauze and renders them more or less impervious to the ether vapor. Further, if gauze alone is used there is much waste of ether, for, although the actual quantity lost may not be great, the proportion renders anesthesia more tardy and difficult. To obviate these troubles some cover the gauze with a sheet of absorbent cotton, in which a hole is torn and through this hole the ether is dropped on the gauze, which is sometimes kept away from the face by placing it over an ordinary Esmarch's chloroform inhaler. By this method, also, much ether is wasted, as the cotton absorbs it by capillary attraction.

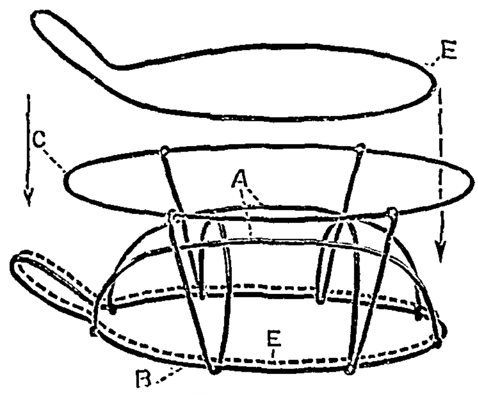

Figure 1

A description of the inhaler which I devised and which I have used for years with perfect satisfaction may be of general interest and is, therefore, here submitted.

This inhaler is intended to administer only air saturated with ether in only the quantity necessary to produce and maintain surgical anesthesia, although profound anesthesia may be maintained if desired. It consists of a metal wire frame (Fig. 1) over the convex portion of which (A) are stretched several thicknesses of surgical gauze (Fig. 2).

This gauze is held taut and in contact with the face wire (B) by means of a flexible wire (E). It will be seen that when thus arranged the apparatus embodies all the essentials of an Esmarch chloroform inhaler. It differs from the Esmarch, however, in that the face wire (B) should so come in contact with the face of the patient as to allow no admission of air between the inhaler and the face, a condition the reverse of what is necessary when chloroform is administered. The amount of gauze which should be employed depends on the size of the mesh of the gauze, for as much should be used as can be employed without in any way embarrassing the respiration of the patient. Ordinarily six to ten layers are sufficient. The wire frame with the gauze in place is then covered by a canton flannel bag (Fig. 3), so arranged that it fits snugly around the face wire (B) without impinging on the free space, and on top it draws up so as to leave an opening about an inch in diameter, through which the ether is to be dropped on to the gauze inside (Fig. 3, G).

When the apparatus is complete (Fig. 3) it is adapted for the administration of ether to a patient in the supine position. If it is necessary to have the patient in a lateral position, a cover may be used with an opening in the side instead of in the top.

When put together for use the apparatus consists of two chambers (K and M, Fig. 4), and when the ether is dropped through the opening (G) in the cover (F) it falls on the layer of surgical gauze (D), supported by the convex wire frame (A), and evaporates, thereby saturating the air in chamber K This air saturated with ether vapor is of higher specific gravity than pure air and falls through the gauze into chamber M, which is supported below by the face wire (B), so bent as to fit the patient's face and thereby to prevent the admission of air from below. Hence the patient inhales only the etherized air in chamber M.

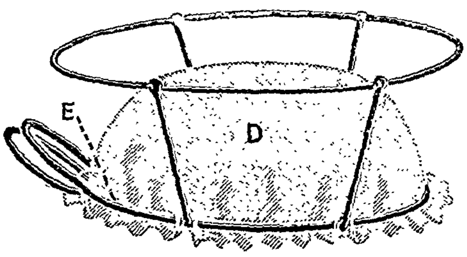

Figure 2.

When in use the wire frame first should be fitted accurately to the face of the patient by bending slightly the flexible face wire, and after the instrument is put together, as described above, it should be laid gently on the patient's face, who should be allowed to breathe through it and thus know that his respiration is not impeded. Tell him that the odor of ether may not be very agreeable, but if he breathes deeply he will not mind it. This will inspire confidence when he first smells the ether. Then, while deep respiration is in progress, allow a drop of ether to fall through the opening on to the gauze and follow this in a few seconds by another drop, and so on. Soon the respiratory passages become tolerant of the ether vapor, and the patient passes quietly into the first stage of anesthesia. The ether now may be dropped more frequently and surgical anesthesia will be induced, generally without any manifestation of a secondary stage, unless, possibly, a fixation of the chest for a few seconds, during which the ether should be continued and pushed by dropping it more frequently.

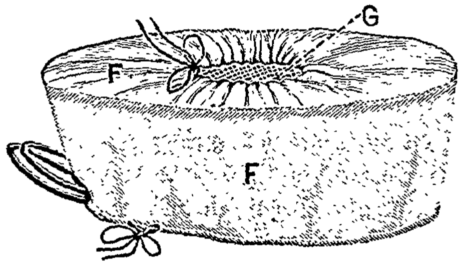

Figure 3.

A profound anesthesia may be maintained by continually dropping the ether on the gauze, but, by carefully watching the condition of the patient during the operation, an anesthesia just sufficient to keep the patient relaxed may be maintained. On removal of the inhaler a speedy recovery, usually free from nausea or vomiting, takes place.

By means of this inhaler surgical anesthesia may be produced in from two to five minutes with from four to six drams of ether, and for hysterectomy, lasting one hour and three-quarters, anesthesia has been kept up for one hour and forty minutes by using only three and one-half ounces of Squibb's ether for the total operation, and this is an average result. With alcoholic patients the inhaler works well. It is rare that anesthesia in such cases is not produced in from eight to ten minutes, although, of course, there are patients who do not respond easily to the administration of ether by this inhaler or by any other. The above figures are those of actual practice, when effort has been to see not how quickly but how well and comfortably to the patient the anesthesia could be induced.

At the end of each anesthesia the gauze should be thrown away, the cover put in the wash and the wire dipped in some non-corrosive antiseptic solution. For the next operation clean gauze and a fresh cover should be employed.

It has been claimed by some that bronchorrhea or bronchitis is often a necessary sequela of the open method of ether anesthesia. This is a mistake. Such difficulties are due to the erroneous use of the method. If the ether is too cold when introduced into the inhaler, or if it is poured into the instrument in such quantities as to reduce its own temperature by evaporation, some bronchial difficulty may be experienced, but if a few cans of ether are kept in the operating room so that when used the ether may be of the temperature of the room, or if the anesthetist warms the can thoroughly by immersing it in tepid water before opening it, and then drops (not pours) the ether into the inhaler, no difficulty will be experienced except in cases of idiosyncrasy in which the mucous membrane is very susceptible to the slightly irritant properties of ether.

Further, it should be remembered that bronchorrhea, bronchitis and the so-called ether pneumonia are due more to the chilling of the patient's body than to the inhalation of the ether. This may take place either during the operation from necessary or unnecessary exposure, or after the operation because the bed in which the patient is placed has not been sufficiently warmed, or from a draft in the recovery room or ward. Since rubber hot water beds for the operating table have been provided, as also proper care for the warmth of the patient after the operation, post-anesthetic bronchial and lung troubles have been greatly reduced in number. It is hardly necessary to add that only ether of a very low specific gravity and a high degree of purity should be used.

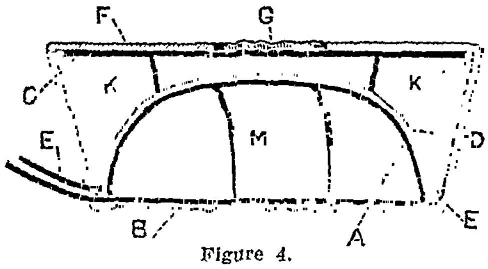

Figure 4.

This inhaler can also be used as an Esmarch chloroform inhaler for the administration of chloroform, as well as for ethyl bromid, but not for ethyl chlorid. The apparatus is simple, small, compact, cleanly and cheap.

Clinical Report

A CASE OF AINHUM.

Q. CINCINNATUS SMITH, M.D.
SAN DIEGO, CAL.

The following case came under my notice several years ago: The patient was a negress between 35 and 40 years of age, the daughter of a native African father, who was captured in Africa, sold into slavery when a boy, lived a slave in Tennessee, and died at the age of 115 years. The patient lost both small toes by ainhum and suffered great pain during their spontaneous amputation, which required several months to complete. During this time her general health was not seriously disturbed. This patient was the property of my father, the late Moab Stephen Smith, and lived to be about 90 years of age. I send this for record in the list of ainhum cases.

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SATURDAY, DECEMBER 30, 1905.

THE INDEX.

It may be considered unusual for a journal to refer editorially to its index, because an index is an ordinary affair and is supposed to accompany the last number of the volume of all periodicals. But for several years we have been issuing with each volume an index to current literature, aside from the ordinary index, and as many of our readers, even those who have been reading The Journal for years, do not know what we are doing in this regard, we make it a point to call attention to it in this manner. The index that accompanies this number is something more than an index to the matter that has appeared in The Journal—it is a guide to the current medical literature for the six months covered.

Included in the pages from 2039 to 2058 is the ordinary index, but commencing on page 2059 is the Index to the Current Medical Literature, and it is to this that we want to call particular attention. In this will be found the titles of the original articles that have appeared in practically all of the important journals of this and foreign countries. On page 2085 commences the authors' index. While the Current Medical Literature is not as complete as, nor is it expected to take the place of, the *Index Medicus,* it will be found more practical for those who wish to look up the important articles that have appeared on any subject, and who do not want every case report, etc., that has been published.

We reprint this index, and with it the titles of the articles that are indexed. In this form it is much more convenient for reference than if the bound volume of The Journal has to be referred to. This reprint we supply at fifty cents a copy or seventy-five cents a year.

We respectfully ask those of our readers who are in the habit of looking up literature, and who have not used this index, to test its value, and to make any suggestions that may occur to them. We ask for criticisms so that we may make this index still more satisfactory and more practical.

SOME INTERESTING RESULTS OF TUMOR TRANSPLANTATION.

Within a very short time we have witnessed the method of research in the problems of malignant growth, which was limited almost entirely to histologic and statistical studies, changed to an experimental method that is fairly comparable with those of bacteriology. The discovery that many spontaneous tumors in the lower animals are capable of successful transplantation from one animal to another of the same species has made it possible to follow out careful cultural methods, in which the chief difficulty is the limited variety of culture media on which the tumors can be made to grow, namely, the bodies of animals of the same species as the host of the original tumor.

The first important experiments of this sort were those of Hanau, later followed by Leo Loeb and M. Herzog in this country, and by Jensen, Borrel and Michaelis abroad. In Ehrlich's laboratory in Frankfort, besides the well-known work on the problems of immunity there is a "carcinoma department," in which large series of transplantations of this kind have been undertaken. Some time ago[1] we described a number of experiments on transplantation of tumors in dogs made in this laboratory. Experiments on the much more easily transplanted tumors of domesticated mice, which occur spontaneously and in epidemics in laboratory animals, have also been conducted on a large scale, tables of the results having been exhibited at St. Louis. These tumors always arise primarily in the mammary glands of female mice, and the epidemics seem to be brought about by inoculation by the suckling young, which nurse one another's mothers most promiscuously. Of seventy-one such tumors ten were successfully transplanted, and at the time of the last report[2] had been carried as far as to the sixtieth generation. Among numerous observations one of the most significant is that while only the mammary glands of adult females are affected by the primary tumor, the transplantations are unaffected by the age or sex of the inoculated animal, indicating that the conditions necessary for the natural origination of a malignant tumor are very different from those under which the existing malignant cells can take root and grow.

We are particularly interested in this series of experiments in connection with our comments recently[1] on the subject of the occurrence of multiple primary malignant tumors of different natures in the same individual. We there pointed out that each variety of malignant tumors seems to be of quite specific nature and origin. In these mouse experiments of Ehrlich and Apolant, however, a remarkable result was obtained, not apparently in accord with this rule. A carcinoma had been transplanted from one mouse to another, preserving its original characteristics, until suddenly in the tenth generation it was observed that part of the growth was sarcomatous. The sarcomatous elements increased and the carcinomatous decreased with each generation until the fourteenth, when no more carcinoma was left, and for twenty-six more generations inoculations produced only purely sarcomatous tissue. This is certainly a most unique observation, and the proper interpretation of its meaning is of great importance. There is nothing to suggest that the carcinoma cells had undergone a metaplasia into

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1. The Journal, Dec. 17, 1904, p. 1872.
2. Berl. klin. Wochft., 1905, vol. xlii, p. 872. Brief abstract in The Journal, xlv p. 880.

mesoblastic tissue. Perhaps as promising a suggestion as any yet made is that the result of transplanting from one animal to another for many generations a strain of connective tissue (namely, the stroma of the primary tumor, which always seems to live and grow in each implanted piece), has resulted in its acquiring a greatly increased power of growth in foreign organisms, until at last the energy of growth has been so exalted that it passes the normal bounds and becomes truly malignant.

This is analogous to the increase of virulence that results from passing bacteria from one host to another, and opens a new field of experiment.

It must be also considered, however, that these mouse tumors, which are now being used so much in the study of cancer problems, present several differences from typical carcinomas, even though histologically they are practically identical. One difference is their frequent epidemic occurrence among caged mice. Another is the frequence with which they spontaneously cease growing and undergo natural cure, which has made possible the experiments on the development of immune serum in mice with such healing tumors that are being carried on in Gaylord's laboratory in Buffalo. There can be no question about the histologic nature of the elements of the mixed tumors in Ehrlich's mice, a number of the leading pathologists in Germany having agreed with the diagnosis of sarcomatous and carcinomatous growth.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN THE UNITED STATES AND IN ENGLAND.

There can be no doubt but that in many respects the physical and economical conditions of the poor in England in general and in London in particular are giving rise to widespread feelings of misgiving among the more intelligent of the community at large. The number of unemployed, many of whom would not work if they had the opportunity, is appalling. Another feature of sinister import in the large manufacturing towns of England is the increasing physical, and it may be said also, mental degeneration of their workers. The fact is recognized at its full significance that this evil must be attacked at its root and that in any attempts to improve the race attention must be paid to the health of the young. The English Local Government Board has already initiated a revolution in poor-law procedure by an order last April for the feeding of hungry school children, and now the Board of Education department committee has followed suit with a report on the same subject and on the question of the medical inspection of children attending public elementary schools. This committee has issued recently a report dealing more or less exhaustively with these two subjects. The results of medical inspection, the committee says, "leave something to be desired and there is much opening for improvement." It is shown, however, so far as results of medical inspection are recorded, that diphtheria is now under such complete control in several areas that an outbreak can be stopped in a few days. Much also has been effected in the direction of securing greater cleanliness and freedom from vermin, and the inroads of ringworm have been appreciably checked. The condition of the children's eyesight has received close attention; defects have been discovered and spectacles have been provided. Steps have also been taken toward dealing with the difficult question of defective hearing.

In the section of the report referring to the feeding of children attending public elementary schools a series of recommendations for better organization has been made by the committee. One recommendation is to the effect that parents should be told clearly that they are in receipt of charitable relief when such is the case, and that greater effort might be made to obtain payment from parents for the whole or part cost of meals supplied to their children. The suggestion is further made that the children of families in temporary distress should be made the first care of any feeding agency.

Drunkenness in the parents is commented on as introducing a serious difficulty into any system of feeding the children. It is stated that when help is refused the children continue to starve, but that when assistance is given it only means more money for the parents to expend on drink.

Several of the large cities of this country preceded England in the medical inspection of school children. and with us the innovation has been attended with the most satisfactory results. With regard to the feeding of indigent school children, such a procedure is entirely opposed to the American spirit of independence. The only places in which its introduction is likely to take place is in those cities in which there is a large alien population. In European countries overcrowding is the rule, and in many cities in Great Britain, especially in England, improvidence and drunkenness have undoubtedly tended to aggravate matters. The concentration of the population in the large cities is a phase of the overcrowding question which is manifested almost to as great an extent in America as in Europe, and the evils connected therewith must be dealt with. On account of the size and resources of the United States the situation has not reached the acute stage, but, at the same time, signs are not lacking that the time is not far distant when the problem of how to deal with the surplus poor, ill-fed and degenerate population of the cities of this country will engross the attention of sanitarians and sociologists.

THE CHAMBER OF HORRORS.

After all the revelations concerning the venality of the trade in patent medicines it was not to be expected that anything worse could be said. It now seems that the first dissections were only preliminary. In the *Ladies' Home Journal,* January, 1906, are two articles on the subject by Mr. Mark Sullivan that are well calculated to make any decent man or woman shudder and in amazement to ask if human beings in this age are capable of such abject depravity. After this exposure men in the patent medicine trade should hardly expect to associate with any but the criminal classes. We learn that poor suffering deluded women are cajoled into writing their troubles—their most confidential secrets, their sexual relations, their defects in development of bust, and the rest—to the "doctor" of the company under the solemn promise of absolute secrecy. It is then set forth that these letters are first sorted by male clerks and answered by various "stock letters," after which the "richest" ones for young men and young women to read are passed around, even taken home by clerks and handed around among the neighbors. Finally, after salacity is satisfied and the poor victims cease to buy any more of their medicines the officers of the company gather up the letters and sell them to letter brokers and to other patent medicine concerns for a half cent each. Is not this "the limit?" Shall the postal service be used in this immoral traffic? Will the enlightened newspapers still continue to play their indispensable part in this worse than swindle? The horrors of the slave trade were no worse. The additional facts adduced regarding testimonials for patent medicines are less shocking, but no less interesting. We are informed that "testimonial brokers," through newspaper correspondents chiefly, offer for sale for any nostrum the testimonial of a United States Senator for $75 and of a Congressman for $40. Our representatives seem pretty cheap, but Mr. Sullivan's story shows how the price has been brought so low. The sales are often made in $5,000 lots, so that the trade is wholesale and affords the broker a considerable margin. In the last twelve months of exposure of corruption in American politics and business there has been nothing to approach the villainy of the "patent medicine" business.

CONVICTS AND HYGIENE.

From state after state there come complaints of the insanitary conditions of penitentiaries. Great efforts have been made to rectify these ill conditions, but governments proverbially move slowly. In the meantime, those who are segregated from society in order to limit their anti-social proclivities are in reality frequently condemned to death by tuberculosis. Some prisons are reported to be veritable hot-beds of this disease. The expense of meeting this state of affairs appears almost insurmountable when viewed in the light of the usual public inertia in regard to reforms. Meanwhile an increasing number of keen students of these problems turn to a proposal that seems revolutionary and that presents some practical difficulties of execution, but which nevertheless appeals strongly to the humane instincts and the scientific knowledge of physicians. This proposition is that "imprisonment at hard labor" shall be corrected to "compulsory farm labor" and perhaps to roadmaking. Farm work is healthy. As compared with confinement in a dingy prison, the promise of a chance of reform of the criminal is multiplied many fold by the healthy occupation, while the community would thereby cease its efforts to breed and to spread the infection of tuberculosis. It appears certain that this departure in penology will soon be under discussion by state legislatures, and there can be no doubt that the voice of the medical profession will join in the appeal of humanity and hygiene.

HYGIENIC METHODS OF EATING.

Apparently more provision is made to prevent our domestic animals from eating too hastily than is provided in the case of human beings. The horse frequently suffers from his unbecoming and unnecessary haste in eating; confronted by a generous display of oats in the feed-box, he can not resist the inclination to bolt one mouthful so that he may take another, at the expense of his health. According to the *Scientific American,* a feed-box has been invented in which only a mouthful is in sight at the bottom, and the horse has to eat this before more feed enters the feed-box. The horse is thus compelled to eat his meal in a more wholesome manner. It would be a wise provision to have some such arrangement in connection with the "quick-lunch" counters of the cities for men who feel the necessity or the inclination to bolt their food. It is certainly wise to safeguard the health of horses, but why allow human beings to go their own sweet way in unhygienic habits? We shall look for an adaptation of the horse feed-box scheme, at least for the quick-lunch counter.

UREMIC DERMATITIS.

Chiari of Prague[1] recently reported an interesting case of chronic nephritis with stomatitis and pharyngitis, enteritis and dermatitis (*akne et impetigo cachectica*). From the results of his careful anatomic study, gross and microscopic, Chiari reaches the conclusions that the different inflammations mentioned were of the same etiology, namely, uremic, and caused by the toxic action of urinary poisons on the mucous membranes involved and on the skin. The degree of dermatitis was unusually severe in this case, which was one of granular atrophy of the kidney following chronic nephritis. Various authors have described cutaneous eruptions in connection with uremia, and the occurrence of enteritis in this condition is well known, but the correlation of these processes as essentially of the same toxic origin seems to be a new departure of interest to clinicians and pathologists. The question as to the exact chemical nature of the substance or substances causing the inflammatory changes naturally suggests itself at once, as well as the great difficulties that now appear to stand in the way of its solution.

PHYSICIANS AND TARIFF.

Physicians have no professional interest in the tariff, but when the subject of tariff revision comes up there are several schedules in regard to which medical men of right have definite convictions. The duties on scientific instruments and books stand first in importance. The following duties of the present tariff were listed recently in a newspaper and are worth attention: Boric acid, 122 per cent. In 1904 $30,000 worth was imported, paying $36,000 in duty. Tannic acid, 103 per cent.; spirits of nitrous ether, 250 per cent.; sulphuric ether, 236 per cent.; spectacles and eye glasses, higher grades, 50 to 70 per cent., and cheaper grades, 116 per cent. Physicians will not protest because firecrackers pay 126 per cent. duty, even though the imports in 1904 were $266,000 and the duty $334,000.

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[1] Prag. med. Wochft., 1905, xxx, p. 36.

Medical News

CALIFORNIA.

Beriberi.—A young Japanese is lying ill at the County Hospital, Los Angeles, suffering from beriberi combined with typhoid fever.

Loses Suit.—Dr. Peter A. Kearney, San Francisco, who sued Mrs. Theresa Ball for $25,000 for medical services alleged to have been rendered to her and her children, lost his suit, the jury finding a unanimous verdict in favor of Mrs. Bell.

Communicable Diseases.—Six cases of smallpox have been found at San Lorenzo, and all infected houses have been quarantined.——It is reported that there is no sign of abatement of the epidemic of diphtheria which is prevailing at Sierra City.

Personal.—Dr. Edward Hanlon, Marysville, has gone to Europe.——Dr. Thomas W. Prose, Woodland, has been appointed superintendent of the Odd Fellows' Home, Thermalite. ——Dr. and Mrs. William E. Hopkins, San Francisco, have returned from Europe.

Banquets.—Dr. William J. Walsh, San Francisco, coroner-elect, was the guest of honor at a banquet December 2, given by his associates in the Emergency Hospital service.——A banquet was given December 5 at the Claremont County Club, Oakland, in celebration of the fortieth anniversary of the incumbency of Dr. Warring Wilkinson as superintendent of the California Institute for the Deaf, Dumb and Blind at Berkeley.

DISTRICT OF COLUMBIA.

Police Surgeon Injured.—Dr. C. C. Marbury, police surgeon, was seriously injured by being thrown from his automobile in a collision with an electric car.

To Repeal Anti-Canteen Law.—Representative Morrell of Pennsylvania has introduced a bill repealing the anti-canteen law. The bill is in keeping with the report of the Committee on National Legislation of the American Medical Association adopted at the St. Paul meeting in 1901.

Health of the District.—The report of the health officer for the week ended December 16 shows that the total number of deaths was 106, and that there were 140 births. At the close of the week the following cases of contagious diseases were under treatment: Diphtheria, 62; scarlet fever, 29; typhoid fever, 105, and smallpox, 6.

IDAHO.

Personal.—Dr. Robert L. Nourse and family, Hailey, left for New York, on their way to Europe, December 14.

Hospital Notes.—Josephine Sanatorium, Weiser, has been opened to the public by Dr. Joseph R. Numbers.——Wallace Hospital is now in charge of Drs. J. E. St. Jean, Burke, and C. R. Mowery, Wardner, who purchased the institution from Dr. Charles W. Craik.——Pocatello General Hospital has been incorporated by Drs. William F. Howard, Hubert A. Castle and others, with a capital stock of $25,000.

ILLINOIS.

Hospital Nearly Completed.—The Dr. John Warner Hospital, Clinton, is already enclosed and will, it is expected, be dedicated February 15 next.

Diphtheria.—During the past six weeks diphtheria has occurred in more or less epidemic form in about 125 cities and villages spread over 61 of the 102 counties of the state. As a rule, the disease has been mild in character.

Smallpox.—The State Board of Health reports smallpox in Greene, Macoupin, Knox, Jersey, Logan, McLean, Adams and Pike counties. The disease has spread from Jerseyville, Jersey County, into Macoupin and Greene counties, which are adjacent.

Personal.—Dr. Grant Irwin, Quincy, was fined $32.95 December 3 for hunting in Missouri without a license.——Dr. Thomas Croswell, Streator, was made an honorary member of the Northern Central Illinois Medical Association at its recent meeting in Streator.——Dr. John B. Meigs, Manito, who was recently injured by a broncho, is recovering.

Another Victory for the State Board of Health.—In the case of the People vs. Peter R. Langdon, Kankakee, noted two weeks ago, the Supreme Court has rendered a decision in favor of the State Board of Health. Suit was brought against Langdon for practicing medicine without a license. His defense was based on the wording of section 2 of the Medical Practice Act providing that "no person shall hereafter begin the practice of medicine," etc., and the contention that he had not "begun" practice after the passage of the act. In this he was sustained both by the Circuit Court of Kankakee County and the Appelate Court. Following its policy of pushing all cases involving the validity of any section of the law to courts of the last resort, the State Board of Health appealed to the Supreme Court. In the opinion of the Supreme Court, delivered by Chief Justice Cartwright, it is held that section 9 of the act is specific and unmistakable in providing that "Any person practicing medicine or surgery or treating human ailments in the state without a certificate issued by the board" shall forfeit and pay certain penalties. It is further provided that the act is penal in character and to be strictly construed, but not with such technicality as to defeat its purpose; and further, that a single section of the act should not be construed to annul the apparent true meaning and intent of the whole act. The judgment of the appellate and circuit courts is reversed and the case remanded to the Circuit Court with directions to overrule the demurrer.

Chicago.

The Health Department's Forecast.—Should present conditions continue until the end of the year, the forecast made in July by the department of health that 1905 would have the lowest death rate on record, will be fully verified. The death rate for 1904 was 13.62 per 1,000, and 1905 promises to go below 13.5 per 1,000.

Deaths of the Week.—During the week ended December 23, 496 deaths were reported, equivalent to an annual death rate of 12.99 per 1,000. There were 54 deaths less than in the corresponding week of 1904, and 7 more than in the previous week of 1905. Pneumonia caused 83 deaths; consumption, 63; nephritis, 45; heart diseases, 38; violence, including suicide, 33; nervous diseases, 22, and cancer, 20.

INDIANA.

Buys Hospital Site.—The governor has paid $36,975 for the site of the Southeastern Indiana Hospital for the Insane at Madison.

Hospital Dedicated.—The new City Hospital, Bloomington, has been completed at a cost of $10,000, and was dedicated November 30.

Personal.—Dr. James A. Mattison, National Military Home, returned December 20 after a four months' stay in Europe.—— Dr. John W. Ballard, Logansport, has been appointed physician of Cass County.——Dr. James K. Hawes, Clifford, has been appointed secretary of the Bartholomew County Board of Health.

November Deaths from Violence.—Of the 159 deaths from violence in November, 10 were homicides, 27 suicides, and the remainder accidental. Eight women committed suicide; 7 used poison and 1 burned herself to death with coal oil. Of male suicides 5 chose hanging, 6 shooting, 1 cutting throat and 7 poison. The railroads killed 37 persons and street cars and interurbans, 1 person. There were 5 deaths from accidental drowning, 36 from crushing injuries, 7 from gunshot wounds, 24 from burns and scalds, 5 from drowning, 1 from electricity, 2 from horses and vehicles, 7 from mining, and 2 from poison.

November Deaths.—The total number of deaths reported in the state was 2,687, 121 more than in the corresponding month of last year. Tuberculosis caused 344 deaths; typhoid fever, 101; diphtheria, 33; scarlet fever, 11; whooping cough, 10; pneumonia, 219; diarrheal diseases, 42; cerebrospinal meningitis, 32; influenza, 13; puerperal fever, 10; cancer, 120, and violence, 159. The death rate for the state was at the annual rate of 12.3 per 1,000. The death rate for cities was 15, and the death rate of the country was 10.8. Of the cities having over 10,000 population, Lafayette reports the highest death rate, 20.5, and Marion the lowest, 11.2. Indianapolis shows a death rate of 16.1 and Evansville, 15.2 per 1,000.

MARYLAND.

Smallpox.—Four cases of smallpox have developed among the colored workmen in a brickyard at Dundalk, a river suburb of Baltimore.

Miltenberger's Estate.—The late Dr. George W. Miltenberger left his entire estate to his nephews and nieces, being a widower and having no children. His personalty amounted to $175,000.

Report of School for Feeble-Minded.—The ninth biennial report of the visitors of the Maryland Asylum and Training School for Feeble-minded, Owings Mills, has been completed. It has been found necessary to ask the Board of State Aid and Charities for an additional appropriation of $140,000,

$75,000 of which is required for additional buildings. There are 102 male and 98 female inmates, representing 21 counties, an increase of about 37 per cent. The majority of the inmates are between 11 and 16 years of age.

Withhold Aid from Private Institutions.—The Board of State Aid and Charities refuses to make appropriations for medical colleges, claiming that these institutions are essentially business enterprises in which the profits are divided among the owners. Two years ago the board left these institutions out of its list of recommendations, but they took the matter into their own hands and went direct to the legislature and got their appropriations, and it is understood they will endeavor to do the same thing this year. The hospitals and charitable institutions are all provided for, and the Johns Hopkins University will receive the same amount recommended two years ago.

Baltimore.

Jury Warns Against a Dangerous Nostrum.—The death of an infant from the use by its mother of a proprietary remedy known as "Kop's Baby's Friend" (concerning the composition of which, see The Journal, Nov. 25, 1905, page 1678), caused the jury of inquest to issue a warning to the public not to use that agent. The evidence before the jury showed that there was no way to account for the death unless the 10 drops of the medicine administered to it contained morphia sufficient to kill it. The state's attorney calls attention to the case in the newspapers and urges the need of a law prohibiting the sale of any patent or proprietary medicine containing any deadly drug unless it is labeled poison.

MASSACHUSETTS.

New Hospital.—The Bishop Stang estate, Fall River, has been purchased by Dr. Philemon E. Truesdale, and the building has been equipped as a private hospital with accommodation for 12 patients.

Bequests.—*Mrs. Helen G. Coburn leaves, among many other* large bequests, $50,000 to the Children's Hospital, Boston; $75,000 to the Massachusetts General Hospital, $25,000 to the Lawrence City Hospital, and $10,000 to the Instruction District Nursing Association.——By the will of John Bartlett of Cambridge the Woman's Aid Association of the Cambridge Hospital receives $5,000.——The Free Hospital for Women, Boston, will receive $1,000 by the will of Harriet M. Gilbert.

Deaths and Diseases.—There were reported to the Boston Board of Health for the 10 weeks ended December 2, 1,886 deaths, as compared with 1,962 during the same period last year. Of these 364 were under 1 year old, 514 under 5, and 417 over 60. There were 341 cases of diphtheria, with 16 deaths; 203 of scarlet fever, with 3 deaths; 256 of typhoid fever, with 34 deaths; 733 of measles, with 9 deaths; 423 of tuberculosis, with 220 deaths. Pneumonia caused 197 deaths; whooping cough, 5; heart disease, 209; bronchitis, 51, and marasmus, 67.

MICHIGAN.

Personal.—Dr. Johnston B. Kennedy has been appointed a member of the Detroit health board.——Dr. Thomas M. Koon, health officer of Grand Rapids, fell on the ice December 17 and injured his knee.

Historic Building Unsafe.—The regents of the State University, Ann Arbor, have decided to condemn the west end of the old medical building. No classes will be heard in its halls after the close of the first semester.

Accused Go Free.—In the second trial of George E. Bliss, Maple Rapids, for manslaughter through an alleged criminal operation, the jury disagreed and the case was dropped from the calendar.——J. F. Hare, Detroit, against whom the charge of attempted illegal operation was made by Elsie Priemel, was acquitted, the judge saying that he did not think any jury would believe the prosecuting witness.

Valedico.—With an editorial in the December *Bulletin*, bearing this title, Dr. Cressy L. Wilbur announces his retirement after 13 years of service as chief of the division of vital statistics of the State Board of Health. The editorial closes as follows:

> I have seen the mortality statistics develop from a weak, discredited system to a model service awarded the highest honors among the registration states.
>
> Michigan now stands on the threshold of a new period of achievement dependent on the enforcement of the new law for births.
>
> God speed the work! I have only thanks and best wishes for all the friends of the past years who as registrars, health officers, physicians, undertakers, officials of the Department and members of the Legislature have aided to make the service effective and a credit to the state, but must especially remember the faithful workers in the office force who have carried out the details of administration. Good bye!

November Mortality of Michigan.—The total number of deaths for November was 2,644, representing an annual death rate of 12.6 per 1,000. There were 445 deaths of infants under 1 year of age; 164 deaths of children aged 1 to 4 years, inclusive, and 791 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 189; typhoid fever, 93; diphtheria, 71; scarlet fever, 22; measles, 3; whooping cough, 11; pneumonia, 187; diarrheal diseases of infants, 74; influenza, 17; cancer, 143, and accidents and violence, 158. The deaths from pneumonia more than doubled in number, as compared with the preceding month, and influenza also increased, although the total number of deaths from this cause was only 17. A marked decrease was shown in diarrheal diseases. There was only one death from smallpox.

MISSOURI.

New Dispensary.—On December 14 the St. Louis Obstetric Dispensary was formally opened in its new quarters at 711 Carr Street. This institution was founded in October, 1904, under the auspices of the St. Louis University, and is at present maintained with funds provided by a ladies' auxiliary board.

Indecent Advertiser Fined.—As a result of the prosecution of the medical firms who insert indecent advertisements in the St. Louis press, which is contrary to a city ordinance, one of these practitioners has been fined $50 and costs in the City Court. This crusade was undertaken by the city attorney as a result of resolutions introduced and passed by the St. Louis Medical Society. The next order of business along this line wil be the prosecution of the newspapers who insert the advertisements, as they are equally guilty under the ordinances referred to. It is worthy of note in this connection to observe that not a line referring to the above conviction was seen in the daily press, although such a conviction should naturally be regarded as a news item by the papers. Is this another indication of the "criminal alliance between the newspapers and the outlaw practitioners"?

NEW YORK.

New York City.

Varioloid at Governor's Island.—Two military prisoners recently sent to Governor's Island for confinement in Castle William, developed varioloid and are quarantined in tents near the post hospital.

Hospital Fire.—Fire occurred in the boiler room of the Cumberland Street Hospital, Brooklyn, December 17. At the time there were about 200 patients in the hospital, but the firemen performed their duties so carefully that the patients were not alarmed. The damage was about $500.

Personal.—Dr. and Mrs. Valentine Mott returned on the *Koenig Albert*, from the Mediterranean, December 20.——Dr. William S. Bainbridge has recently been appointed consulting surgeon to St. Andrew's Convalescent Hospital.——Dr. Rudolph F. Herriman, Brooklyn, has been appointed consulting surgeon to Jamaica Hospital.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 16, 673 cases of measles, with 5 deaths; 409 cases of diphtheria, with 30 deaths; 406 cases of tuberculosis, with 144 deaths; 170 cases of scarlet fever, with 4 deaths; 117 cases of typhoid fever, with 17 deaths; 29 cases of cerebrospinal meningitis, with 17 deaths, and 196 cases of varicella, a total of 1,900 cases, with 217 deaths.

Hospital Bequests.—Isaac Guggenheim has announced to the board of directors of the Sydenham Hospital that he will give $250,000, provided the board raises a like amount, and stipulating that the money should go toward the erection of a new building. Mr. Guggenheim has just given the hospital $20,000 to be used in paying running expenses.——According to the will of Frederick Uhlmann, who died at the German Hospital on December 13, the Mount Sinai Hospital and the German Hospital will each receive $5,000.——In the new hospital shortly to be opened by the Sisters of St. Francis, which is located between One Hundred and Forty-second and One Hundred and Forty-third streets, there will be a ward of 50 beds equipped by Mrs. Clara Greenhut.

NORTH CAROLINA.

Personal.—Dr. Paul V. Anderson, Wilson, N. C., has recently been elected assistant physician of the State Hospital for the Insane, Morganton, vice Dr. Richard H. Speight, Jr., resigned.

New Hospital.—In addition to the three small hospitals of excellent grade and several sanatoria, another addition has recently been made to the medical institutions of Asheville in the Asheville Medical and Surgical Institute, in charge of Drs. Lewis B. McBrayer and Willard P. Whittington.

Many Convicted.—At the recent session of the Superior Court in Murphy, Cherokee County, N. C., more than 50 per cent. of the practicing physicians of the county were placed on trial for illegal practice of medicine. All were convicted and the judge sentenced each to a term on the county roads of an adjoining county some 90 miles away, but enjoined the clerk not to issue any capiases to enforce the road duty until complaint that attempts to continue the practice of medicine was made to him.

OHIO.

Marion County Society Meeting.—At the annual meeting of the Marion County Medical Society, held at Marion, December 5, the following officers were elected: Dr. Elmer O. Richardson, president; Dr. Filmore Young, vice-president; Dr. John W. Adair, secretary; Dr. J. M. Hoskins, treasurer; Dr. Dana O. Weeks, delegate to the state medical association; Dr. A. Melville Crane, alternate, and Drs. C. T. Wiant and Francis M. Baldwin, censors, all of Marion.

Shipping Liquors by Other Names Stopped.—The commissioner of internal revenue has decreed that shipping liquors by names other than those by which they are known to the trade is contrary to the internal revenue laws and must be stopped. It does not make any difference, he adds, that these names have been registered. Under the names of "cream of hops" and "hop tea," among a number of other names equally fanciful, many brands of malt liquors have been slipped into places regardless of local option laws. The commissioner also states that dealers must stop billing whisky as "witch hazel," "oil" and "tonic" when shipping to customers. Bills of lading must show just exactly what is contained in the package.

Privileged Communications.—The Supreme Court of the State of Ohio, in the recent case of the Metropolitan Life Insurance Company vs. Howe, has made the following ruling: "It is not competent to prove by a physician the communication made to him in that relation, but such physician may testify as to facts which are within his knowledge, independent of such communication. He may testify as to the condition and state of his patient as well as the treatment by him prescribed for his patient." In this connection it is reliably stated that the efforts of the counsel of Major Taggart in the recent Taggart divorce trial to obtain the hospital records of his wife's illness would have been successful had it not been that the law of the state explicitly says that such documents can not be conveyed from one county to another for purposes of evidence. Had the trial taken place in Hamilton instead of in Wayne, County, these hospital records must have been produced. Both of these institutions show that there must be something radically wrong with the heretofore highly cherished confidential relationship of physician and patient. It is expected that a bill will be introduced in the next legislature to relieve this condition.

PENNSYLVANIA.

Hospital Gift.—Mr. George F. Baer, president of the Reading Railroad Company, presented a check of $500 to the Reading Hospital as a Christmas gift.

Personal.—Dr. Isaiah F. Everhart, Scranton, has announced that he will present his natural history collection to the city of Scranton, and will erect a $50,000 building for its accommodation at Nayaug Park.

Vital Statistics Law.—All births and deaths on and after January 1 next must be registered within ten days of their occurrence, according to the new law regulating vital statistics, which will go into effect at that time. A failure to comply with this law entails a fine ranging from $5 to $50. The registration must be made at the bureau of health. The law requires that in the absence of the services of a physician and nurse, the father or mother or other person on the premises must report a birth. Births to the number of 28,832 were reported between Jan. 1 and Dec. 1, 1905. There were 32,137 births last year. The figures for 1904 were about 1,100 more than those reported in 1903. The reports of the health bureau show that January, July and August were the heaviest months for births in 1905, while March and September were the lightest.

Philadelphia.

Land for Hospital.—The estate of H. H. Houston has presented to the Chestnut Hill Hospital a plot of ground 20x225 feet.

Bequest.—By the will of Mary A. Cooper the Methodist Home for the Aged received $1,000, the Methodist Hospital $1,000 and the Methodist Orphanage $500.

Personal.—Dr. J. William White was the guest of the President in Washington, December 21.——The coroner has selected Drs. J. Albert Bolin and William S. Wadsworth as his physicians at a salary of $2,500 per annum.

Medical Men Entertained.—Dr. Alfred R. Allen gave a dinner to members of the medical faculty of the University of Pennsylvania at his residence, December 21. The guests included Drs. Alfred Stengel, Allen J. Smith, William G. Spiller, John Marshal, Richard C. Norris, J. P. Crozer Griffith and George C. Stout.

Appropriation for Blockley.—Since the exposure of the conditions at the Philadelphia Hospital by the director of public health and charities, Dr. William M. L. Coplin, the institution has been inspected by council's finance sub-committees on appropriations, which found the conditions of the hospital practically as reported in The Journal, December 16, and recognized the importance of immediate relief. They, therefore, will recommend to councils an appropriation of $100,000 for the immediate amelioration of the present conditions.

Health Report.—The total number of deaths for the week ended December 23 aggregated 524, as compared with 509 last week and 509 for the corresponding week of 1904. The principal causes of death were: Typhoid fever, 14; diphtheria, 15; tuberculosis, 55; cancer, 20; diabetes, 5; apoplexy, 20; heart disease, 49; acute pulmonary disease, 114; enteritis, 10; appendicitis, 6; Bright's disease, 46; suicide, 5; accidents, 19, and marasmus, 4. Of the deaths reported, 96 were due to pneumonia. There were 274 cases of contagious disease reported, with 29 deaths, as compared with 240 cases and 26 deaths reported in the previous week.

GENERAL.

Yellow Fever in Cuba.—Dr. Carlos Finlay, chief sanitary officer of Cuba, reports that the total number of yellow fever cases in Cuba since October 17 till December 14, is 57. Of these one developed in Matanzas City, another at Alacranes, and a third at Real Campina, Santa Clara province. All the patients apparently were infected in Havana. The largest number in treatment at any time, 22, December 6; December 14, only 16.

Inspection of Immigrants.—*Public Health Reports* states that on request of the Secretary of the Treasury the Department of State issued the following amended instructions by telegraph, December 5, to the consuls at Liverpool, Southampton, Hamburg, Bremen, Antwerp, Rotterdam, and Havre, and a circular of instruction was issued to the other consuls at seaports in continental Europe and in Great Britain:

> All immigrants from Russia must be detained five days at the port of embarkation for the United States under medical observation, and if during such detention any quarantinable disease appears or is suspected among them further detention and disinfection must be imposed, as provided by the Treasury regulations. If, however, the American consul or consular agent is satisfied that inspection of Russian immigrants and whatever disinfection of baggage that may be necessary has been accomplished at the Russian frontier, the time occupied in transit by said immigrants from the Russian frontier to the port of embarkation to the United States may be counted in the five days detention required by the United States regulations.

Medical Officer Honored.—A congressional medal of honor has been bestowed on Captain James Robb Church, assistant surgeon United States Army, now at Fort Robinson, Nebraska, who was one of the medical officers attached to Colonel Wood's regiment of rough riders in the fighting at Las Guasimas, June 24, 1898. The following letter from Assistant Secretary Oliver of the War Department makes this explanation of the award:

> On this occasion Captain Church, who was then serving as assistant surgeon, 1st United States Volunteer Cavalry, in addition to performing carefully the duties appertaining to that position, voluntarily and unaided carried several seriously wounded men from the firing line to a secure position in the rear, in each instance being subjected to a very heavy fire and exposure to danger.

Dr. Church was born in Washington, D. C., in 1866. He was graduated from Columbia Medical College in 1893. After receiving his degree in medicine he served as resident physician of the Emergency Hospital for several years. When the First United States Volunteer Cavalry—the rough riders—was organized, he was commissioned therein as assistant surgeon, with the rank of first liteutenant. During the greater part of the stay of the organization in Cuba, Dr. Church, by reason of the enforced absence of the senior medical officer, served as the regimental surgeon and was in charge of the hospital during the trying days after the fighting ceased and the dread Cuban fever was making its appearance.

Correspondence

The Burning of the Books.

Friar's Point, Miss., Dec. 23, 1905.

To the Editor: In The Journal, December 16, is an article by Dr. Bayard Holmes, in which the doctor takes the position (if I understand him) that *all* text-books of medicine should be burned after being in print ten years. He says: "If a man has done his work before he is 50 and ought then to step aside and give place to the young, the medical text-book has outlived its usefulness in one-tenth of that time." In the first place, I feel sure there are very many men in the medical profession, as well as in other walks in life, who can and do a great deal of good work after they are 50. Dr. Osler would hardly admit his work complete, and doubtless would enter a very vigorous protest to being "laid on the shelf." While I am as strong an advocate of progress as any man, and although I have reached the age when I should step aside, I try to keep up with the times and do not feel like stepping aside, as I am sure that there is much work for me to do yet. I have in my library works on practice extending from Dunglison, 1842, to Hare, 1905. I find it interesting and instructive to refer to these "antiquated" works occasionally and sometimes I refer to them to find "where we are at," as it is an indisputable fact that "the pendulum swings," hence authorities often find a reversal of opinion forced on them. I for one am not willing to admit that the experience and observations of those old "fathers in medicine" are absolutely worthless to us, for I find, by comparison, that in many instances authorities of the present era have not made any very perceptible progress over the theories as advanced several years ago. I feel sure that those old fellows stumbled on the truth occasionally (perhaps by accident), as can be proved by reference to some of those books and those of the present era. For instance, 50 years ago "blood letting" was routine practice, 25 years ago it was obsolete, to-day it is advised as being beneficial in some cases. In those older works calomel was advised in large doses in certain cases, later small doses only were advised. We find in Hare's "Practice," page 248, "treatment of intermittent fever": "It is, therefore, essential in almost every case (I find it essential in every case) of intermittent fever that the bowels shall be thoroughly unloaded, preferably by full doses of calomel, of which not less than 5 nor more than 20 grains are required, this in turn being followed by a saline purge." Experience and observation during an active practice of over 30 years in the malarial sections of Tennessee and Mississippi lead me seriously to doubt the anopheles mosquito or any other mosquito as being the only means by which the human system can be infected with malarial poison. Verily the pendulum does swing; therefore, it is not impossible that those old books may be useful later; at all events in this "neck of the woods" we have plenty of fuel without "burning the books." H. C. Buck, M.D.

Association News

The Constituent Branch of the American Medical Association for New York.

All legal and other details for the amalgamation of the New York State Medical Association having been completed, and the constitutional requirements for becoming the constituent branch of the American Medical Association having been fulfilled by the reorganized Medical Society of the State of New York, the following letters have been sent to the executive officers of the society by the corresponding officers of the American Medical Association:

Louisville, Ky., Dec. 22, 1905.

Dr. Joseph D. Bryant, President of the Medical Society of the State of New York, New York, N. Y.

Dear Doctor: I have the honor to acknowledge your communication conveying official notice that the final details of procedure in the consolidation of the New York State Medical Association and the Medical Society of the State of New York have been completed. I beg to congratulate you on this consummation, which has been long desired by the profession of the United States. Since the organization formed by the union of these two societies becomes the constituent branch of the American Medical Association in the state of New York, I beg to extend, in behalf of the American Medical Association, a cordial greeting to your Society and a welcome to the councils of an united profession.

With much respect, I am

Very sincerely yours,

Lewis S. McMurtry,

President of the American Medical Association.

Chicago, Ill., Dec. 24, 1905.

Dr. F. C. Curtis, Secretary, Medical Society of the State of New York, Albany, N. Y.

Dear Doctor Curtis: Since all details have been completed for the amalgamation of the New York State Medical Association with the Medical Society of the State of New York, and since the constitution of the American Medical Association regarding constituent branches has been complied with, the society of which you have been secretary for so many years is now the constituent branch of the American Medical Association for the state of New York.

I wish to take this opportunity to congratulate you, and the medical profession of New York and of the whole country, on this union. I sincerely hope that the results of this consolidation will prove not only a united profession in name, but a united profession in fact, one that will work together for the best interests of the public, of the medical profession, and of each individual member of the profession in the Empire State.

With the compliments of the season, I am,

Very truly yours,

George H. Simmons,

General Secretary, American Medical Association.

Queries and Minor Notes

NO STATES ACCEPT NEW YORK CERTIFICATES.

Rock Rapids, Iowa, Dec. 20, 1905.

To the Editor:—Please inform me through The Journal what state boards of registration, if any, accept the license of the New York State Board without further examination. Inquirer.

Ans.—No states at present. New Jersey will after Jan. 1, 1906.

INFECTION WITH RAT-TAILED LARVA OF DRONE FLY.

Carbondale, Ill., Dec. 14, 1905.

To the Editor:—In The Journal, December 9, p. 1800, the account of this case by Dr. Hanby is interesting as the second case on record of this parasite. In the November number of the *Alkaloidal Clinic* for 1900, vol, vii, p. 879, under the heading "Fly Larvæ in Bowels" was published over my name, the first and only notice I have seen of this condition before last week. A number of these larvæ were sent me by Dr. Littell for identification. After writing the brief notice referred to I bred one of the larvæ to the imago. and found it to be *Eristalis tenax*, as I had surmised. I had bred this fly from spring water before and wrote Dr. Littell that if he would look after the drinking water of his patient he would have no further trouble in that line. It may be of interest to note that I had also larvæ of a sarcophagus fly as human parasites from the same physician. G. H. French, A. M.

State Boards of Registration

COMING EXAMINATIONS.

Utah State Board of Medical Examiners, Salt Lake City, January 1. Secretary, [illegible] W. Fisher, Salt Lake City.

Arizona Board of Medical Examiners, Phoenix, January, 1-2. Secretary, Ancil Martin, Phoenix.

Washington State Medical Examining Board, Spokane, January 2. Secretary, C. W. Sharples, Seattle.

Oregon State Board of Medical Examiners (Regular), Portland, January 2. Secretary, Byron E. Miller, Portland.

North Dakota State Medical Examining Board, Grand Forks, January 2. Secretary, H. M. Wheeler, Grand Forks.

Minnesota State Board of Medical Examiners, Old Capitol Building, St. Paul, January 2-4. Secretary, C. J. Ringnell, Minneapolis.

Rhode Island State Board of Health, State House, Providence, January 4-5. Secretary, G. T. Swarts, Providence.

Arkansas Medical Board, Little Rock, January 9. Secretary, J. P. Runyan, Little Rock.

New Hampshire State Board of Medical Examiners, State House, Concord, January 9-10. Secretary, H. C. Morrison, Concord.

Vermont State Board of Medical Registration, Montpelier, January 9-11. Secretary, W. S. Nay, Underhill.

Wisconsin Board of Medical Examiners, Pfister Hotel, Milwaukee, January 9-11. Secretary J. V. Stevens, Jefferson.

South Dakota Board of Medical Examiners, Sioux Falls, January 10-11. Secretary, H. E. McNutt, Aberdeen.

District of Columbia Board of Medical Supervisors, Washington, January 11. Secretary, W. C. Woodward, Washington.

Illinois State Board of Health, Great Northern Hotel, Chicago, January 18-20. Secretary, J. A. Egan, Springfield.

New York State Boards of Medical Examiners, January 30-February 2. Secretary, Charles F. Wheelock, Albany.

Vermont Change in Place of Examination.—The place of meeting of the Vermont State Board of Medical Registration will be Montpelier instead of Burlington, Jan. 9-11, 1906.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending December 23:

Davis, Wm. B., deputy surgeon-general, will proceed to Vancouver Barracks, Washington, for temporary duty as chief surgeon, Department of the Columbia.

Flagg, Chas. E. B., asst.-surgeon, will proceed to Vancouver Barracks, Washington, for duty.

Brownlee, Charles Y., asst.-surgeon, will proceed to Alcatraz Island, Cal., for duty.

Grissinger, Jay W., asst.-surgeon, will proceed to Fort Jay, N. Y., for duty.

Talbott, Edward M., asst.-surgeon, will proceed to Fort Leavenworth, Kans., for duty.

Clark, John A., asst.-surgeon, will proceed to Fort Oglethorpe, Ga., for duty.

Coffin, Jacob M., asst.-surgeon, will proceed to the Army and Navy General Hospital, Hot Springs, Ark., for duty.

Fife, James D., asst.-surgeon, will proceed to Fort Slocum, N. Y., for duty.

Powell, Wm. A., asst.-surgeon, will proceed to Jefferson Barracks, Mo., for duty.

Kilbourne, E. D., asst.-surgeon, will proceed to Army General Hospital, Presidio of San Francisco, Cal., for duty.

Foster, Charles L., asst.-surgeon, assigned to duty in the U. S. Transport service and will report in person to the medical superintendent of that service in San Francisco, Cal., for duty.

Smith, Herbert M., asst.-surgeon, relieved from duty at Army General Hospital, Presidio of San Francisco, Cal., and ordered to Fort Apache, Ariz., for duty.

Willcox, Charles, surgeon, granted four months' leave about March 24, 1906, with permission to go beyond sea.

Lewis, Wm. F., asst.-surgeon, granted 30 days' leave of absence, to take effect on arrival at Chicago.

Lyster, Wm. J. L., asst.-surgeon, granted 15 days' leave of absence about December 18.

Marrow, Charles E., asst.-surgeon, left Fort Sheridan, Ill., on 10 days' leave of absence.

Davis, Wm. B., deputy surgeon-general, granted 30 days' leave of absence, with permission to apply for two months' extension.

Coffin, Jacob M., asst.-surgeon, granted 15 days' leave of absence.

Skinner, Geo. A., asst.-surgeon, ordered to accompany headquarters and 1st Battalion, 24th Infantry, from Fort Harrison, Mont., to Presidio of San Francisco, Cal., and thence to return to station.

Steer, Samuel L., asst.-surgeon, ordered to accompany the 2d Battalion 24th Infantry from Fort Assinniboine, Mont., to Presidio of San Francisco, Cal.

Greenleaf, H. S., asst.-surgeon, granted 16 days' leave of absence, to take effect Jan. 1, 1906.

Clark, John A., asst.-surgeon, granted 30 days' leave of absence, with permission to apply for 30 days' extension.

Dutcher, Basil H., asst.-surgeon, leave of absence extended to April 14, 1906, with permission to go beyond the sea.

Mason, George L., dental surgeon, left Fort McPherson, Ga., and arrived at Fort Fremont, S. C., for duty.

Boak, S. Davis, dental surgeon, left Fort Myer, Va., and arrived at Columbus Barracks, Ohio, for duty.

Reagles, James, contract surgeon, ordered from Fort Keogh, Mont., to Fort Yellowstone, Wyo., for temporary duty.

Casaday, George H., dental surgeon, relieved from duty in the Philippines Division, and will sail on first transport after Feb. 1, 1906, for San Francisco, Cal.

Bernheim, Julien R., dental surgeon ordered from Fort Porter, N. Y., to Plattsburg Barracks, N. Y., for duty.

Wing, Franklin F., dental surgeon, ordered from Jefferson Barracks, Mo., to Fort Riley, Kans., for duty.

Ware, William H., dental surgeon, granted leave of absence for two months from Fort Logan, Colo.

Jones, George H., contract surgeon, relieved from duty at Fort Fremont, S. C., and ordered to duty at Fort Moultrie, S. C.

Thorp, Charles W., contract surgeon, left Fort Ethan Allen, Vt., on leave of absence for one month.

Byars, Caspar R., contract surgeon, left Fort Sam Houston, Texas, and arrived at Fort McIntosh, Texas, for temporary duty.

Merrick, John N., contract surgeon, ordered to accompany troops from Fort Missoula, Mont., to San Francisco, Cal.

Stuckey, Harrison W., contract surgeon, ordered to Fort Snelling, Minn., to Fort Assinniboine, Mont., for temporary duty.

Mount, James R., contract surgeon, arrived at San Francisco on the transport *Thomas* on three months' leave of absence, from the Philippines Division.

Leeper, John F., contract surgeon, arrived at San Francisco, Cal., on the transport *Thomas* on two months' leave of absence from the Philippines Division.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending December 23:

Ransdell, R. C., asst.-surgeon, ordered to Naval Hospital, Newport, R. I., December 16.

Richardson, F. A., acting asst.-surgeon, detached from naval recruiting station, Baltimore, Md., and ordered to duty with naval recruiting party No. 3, Hutchinson, Kans., January 2.

Duncan, G. F., acting asst.-surgeon, detached from naval recruiting party No. 3, Wichita, Kans., and ordered home and granted leave until January 23.

Diehl, O., surgeon, ordered to *Lancaster*, December 19.

Riggs, C. E., surgeon, ordered to naval medical supply depot, navy yard.

Michels, R. H., asst.-surgeon, New York, ordered to naval recruiting station, St. Louis, Mo.

Riggs, R. E., asst.-surgeon, detached from *Franklin*, December 26, and ordered to command naval hospital, Port Royal, S. C.

Blackburn, T. C., acting asst.-surgeon, detached from naval recruiting station, St. Louis, Mo., and ordered to *Franklin*.

Keene, W. P., acting asst.-surgeon, detached from naval hospital, Port Royal, S. C., ordered home and granted leave until expiration of appointment as acting assistant surgeon.

De Valin, C. M., surgeon, detached from *Lancaster* and ordered to naval recruiting station, Baltimore, Md.

Schwerin, L. H., acting asst.-surgeon, detached from *Hancock* and ordered to *Yankton*, January 3.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending December 20:

Irwin, Fairfax, surgeon, granted leave of absence for five days from December 26.

Carmichael, D. A., surgeon, on being relieved by Asst. Surg. W. C. Rucker, directed to proceed to Buffalo, N. Y., and assume command of the service at that port.

Carrington, F. M., surgeon, leave of absence granted for seven days from December 14, amended to read four days only.

Oakley, J. H., P. A. surgeon, granted leave of absence for one day.

Kerr, J. W., P. A. surgeon, assigned to duty at the Bureau, Washington, D. C.

Holt, J. M., P. A. surgeon, relieved from temporary command of the service at San Francisco, Cal., and directed to report to Surgeon H. W. Sawtelle for duty.

Warren, B. S., P. A. surgeon, expiration of present leave status, relieved from duty at Cape Fear Quarantine Station and directed to proceed to Boston, Mass., reporting to the medical officer in command for duty and assignment to quarters.

[illegible] asst.-surgeon, granted leave of absence for five [illegible] 24.

[illegible] sst.-surgeon, granted leave of absence for one [illegible] er 22.

Rucker, W. C., asst.-surgeon, relieved from duty at Boston, Mass., and directed to proceed to Vineyard Haven, Mass., assuming temporary command of the service at that port and relieving Surgeon D. A. Carmichael.

Foster, S. B., A. A. surgeon, granted leave of absence for ten days from December 12.

Holsendorf, B. E., pharmacist, granted one day's leave of absence under paragraph 210 of the Regulations.

BOARD CONVENED.

Board convened to meet at the Marine Hospital, San Francisco, Cal., Dec. 22, 1905, for the purpose of conducting a medical survey of an officer of the Revenue Cutter Service. Detail for the board: P. A. Surgeon Hugh S. Cumming, Chairman; P. A. Surgeon J. M. Holt, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general, Public Health and Marine-Hospital Service, during the week ended December 22:

SMALLPOX—UNITED STATES.

California: Los Angeles, Dec. 2-9, 4 cases; San Francisco, Nov. 25-Dec. 2, 5 cases.

Illinois: Galesburg, Dec. 9-16, 1 case.

Kentucky: Covington, Dec. 9-16, 1 case.

Maryland: Baltimore, Dec. 9-16, 1 case.

Michigan: Gratiot County, Nov. 1-30, 1 case.

Washington: Spokane, Nov. 1-30, 1 case.

SMALLPOX—FOREIGN.

Brazil: Bahia, Oct. 28-Nov. 25, 99 cases, 5 deaths; Pernambuco, Nov. 1-15, 43 deaths; Rio de Janeiro, Oct. 22-Nov. 19, 29 cases, 12 deaths.

Canada: Toronto, Nov. 25-Dec. 9, 5 cases.

Chile: Antofagasta, Oct. 24-Nov. 7, 48 cases, 13 deaths; Coquimbo, Oct. 22-Nov. 4, 17 cases, 4 deaths; Iquique, Oct. 26-Nov. 9, 20 cases, 22 deaths.

Ecuador: Guayaquil, Nov. 19 26, 5 deaths.

France: Paris, Nov. 25-Dec. 2, 22 cases.

Great Britain: Plymouth, Nov. 25-Dec. 2, 6 cases.

India: Calcutta, Nov. 4-11, 1 death; Karachi, Nov. 4-19, 2 cases, 1 death.; Madras, Nov. 11-17, 2 deaths.

Italy: General, Nov. 16-30, 23 cases.

Mexico: City of Mexico, Nov. 18-Dec. 2, 7 cases, 4 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 22-Nov. 19, 20 cases, 6 deaths.

Cuba: Habana, Oct. 16-Dec. 15, 60 cases, 14 deaths; Matanzas Province, Dec. 8-17, 7 cases, 1 death; Santa Clara Province, Dec. 5, 1 case.

Ecuador: Guayaquil, Nov. 18-26, 3 deaths.

Honduras: Choloma, Nov. 15-21, 2 cases, 1 death; Puerto Cortez, 2 cases, 1 death; San Pedro, 4 cases, 1 death.

Mexico: Coatzocoalcos, Dec. 2-9, 1 case, 1 death; City of Mexico, Nov. 25-Dec. 2, 1 case, 1 death.

CHOLERA—FOREIGN.

India: Calcutta, Nov. 4-11, 33 deaths; Madras, Nov. 11-17, 12 deaths.

PLAGUE—FOREIGN.

Brazil: Bahia, Dec. 15, 5 cases, 3 deaths; Pernambuco, Nov. 1-15, 5 deaths.

India: Calcutta, Nov. 4-11, 21 deaths; Karachi, Nov. 5-19, 10 cases, 10 deaths.

Japan: Kobe, Nov. 8-15, 7 cases; Osaka, Oct. 21-Nov. 15, 18 cases, 14 deaths.

Mauritius: Nov. 2-16, 23 cases, 13 deaths.

Peru: Callao, Oct. 11-31, 1 case, 1 death; Chiclavo, 1 case, 6 deaths; Lima, 8 cases, 1 death; Mollendo, 1 case, 28 deaths.

Rio de Janeiro: Rio de Janeiro, Oct. 22-Nov. 19, 48 cases, 17 deaths; Sao Paulo, Oct. 15-22, 1 death.

Zanzibar: Oct. 8-21, 37 cases, 21 deaths.

Medical Organization

WHAT A COUNTY SOCIETY MAY DO.

The following letter from one of the leading surgeons of Indiana contains so much of interest to county societies, indicating as it does what may be done in any section where as many as three or four wide-awake men can be gotten together, that we are glad of the opportunity to put it before the profession. "What one man has done, other men can do."

Valparaiso, Ind., Dec. 21, 1905.

Dr. J. N. McCormack, Chairman Committee on Organization, Bowling Green, Ky.

My Dear Doctor: Your letter asking me to elaborate our plan of postgraduate work here, with the view that such an account may be used in inducing other medical societies to do likewise, has been received.

I am greatly pleased to have the privilege of doing this, not only for your personal gratification, but because I am confident that it will redound to the very great benefit of such societies as may deem it wise to adopt our plan, as well as to the individual members. It will enable them to do better and more efficient work for the public as a whole, and will aid each individual physician in rendering the best possible service to the unfortunate sick.

Our work was begun two years ago by getting every physician interested in becoming more familiar with scientific and practical knowledge which would be of advantage to him at the bedside, and which would broaden him as a physician. With this end in view, we rented a room, formed a club, and endeavored in every way to appeal to and to build up the social, scientific and material spirit and welfare of the profession. From every point of view I desire to report that we have been eminently successful.

In carrying out this plan we divided our work in such a way that each physician was required to act as a teacher of some special subject, and all the others took their places as students once more. Anatomy and surgery were assigned to one, physiology and practice to another, and so on through the list of subjects, one fundamental and one practical branch being allotted to each teacher. Our meetings were held twice a week, regular lessons were assigned, and we were expected to be present and to give one hour's time to the recitation and study of the subject for the evening's work. In this way we were enabled not only to exchange our individual views as to what we believed, but could always have some good medical authority to place us right if it was found that we were wrong. This plan proved very satisfactory, and we soon learned that the physician who was teacher of the topic assigned derived far greater benefit from his course, for the reason that he was required to study more to hold his ground, sometimes against the combined opinions of the members of his class.

After going along in this way for a time it soon became apparent that the general good demanded that our faculty should be changed from time to time, in order that the teachers could become proficient in more than one subject. I desire to report to you that we found this plan most satisfactory and that it has resulted in a marked improvement of the professional attainments of every individual member of our profession, which means, of course, of the profession as a whole.

The social feature of our plan has done as much, if not more, for the general good of the profession, as the scientific work, and I am now able to report to you that we have no one in this county not on the most friendly terms with the others, and that this is not because they have to be friendly, but because they actually desire to be friendly.

In connection with this work our county society has kept up its regular meetings, always with increased interest, until to-day, although ours is not one of the large counties, I believe I can honestly report to you that we have one of the best, if not the best, county medical society in the state of Indiana, and we are resolved to go on and to keep it well to the front.

It did not take us long to determine that in consideration of the increase in the cost of living in recent years our services were inadequately paid for, and we concluded it was nothing but justice that the general scale of prices should be increased one-half. In order that this might be uniformly done, we each signed a schedule of fees and caused this to be published, with the signatures of every physician in the city attached, definitely fixing the prices of services during the day, and also during the night. The new schedule went into effect without a single ripple, and it has been strictly maintained. I have never known any complaint on the part of the public, or of the agreement being violated by any member of our profession. The public seemed to understand the necessity for the change of schedule, largely because it knew our profession was making a heroic effort to give the people better service. The results have been that our physicians are paid one-half more for their services and the night work has been reduced to a minimum, giving us the evenings for postgraduate work and to spend with our families.

While we have not accomplished all that we set out to do, we have certainly made rapid progress, and are still determined to go on in the same way and never to stop or to falter until our ideals are attained.

Probably this very crude plan might be radically elaborated and improved with benefit, but it has worked so well, and has given such universal satisfaction, that I think none of our profession would be willing to disturb our present satisfactory condition.

Should you in your work be able to use what we have done as an incentive for others to do likewise, or to elaborate it in any way for the promotion of medical organizations, I am sure that you will have the very best wishes of every member of our profession here in your work.

With personal best wishes, I am, most sincerely yours,

David J. Loring, M.D.

Marriages

Milton M. Hess, M.D., to Mrs. Sarah King, both of Morristown, Ind., November 27.

Howard V. Dutrow, M.D., to Miss Emma Agnes Thomas, at Frederick, Md., December 14.

Donald B. Frederick, M.D., Atlanta, Ga., to Miss May King of Marshallville, Ga., December 27.

Ellet Orrin Sisson, M.D., Denver, Colo., to Miss Maze Vernon of Keokuk, Iowa, December 27.

Carroll Flippin, M.D., Charlottesville, Va., to Miss Isabel Anderson of Auburn, Ala., December 19.

Herbert E. Zepp, M.D., St. Michael's, Md., to Miss Grace L. Northam, at Kegotank, Va., December 6.

William G. Reeder, M.D., to Miss Maude Van Heusen, formerly of St. Louis, recently of Chicago.

Peyton R. Denman, M.D., Lufkin, Texas, to Miss Frances Wootters of Crockett, Texas, December 5.

Robert E. Davison, M.D., Pittsburg, Pa., to Miss Nettie May Kratzer of Glenfield, Pa., December 20.

Joseph Harold Holt, M.D., Sherman, Texas, to Miss Norma Lucile Strickland of Athens, Ga., November 8.

Frederick Green Barfield, M.D., Cuthbert, Ga., to Mrs. Helen Denham of Jacksonville, Fla., November 29.

Charles Preston Eichelberger, M.D., to Miss Mary Alexandria Arrington, both of Danville, Va., December 20.

Charles Henry Conley, M.D., Adamstown, Md., to Miss Helen Abell Baughman of Frederick, Md., December 12.

Thomas Stringfield, M.D., Waynesville, N. C., to Miss Mary Elizabeth Moore of Birmingham, Ala., December 26.

Harold Capron Bailey, M.D., to Miss Sarah Pauline Kennedy, both of Buffalo, N. Y., at Brooklyn, N. Y., December 15.

Otto Charles Quitmeyer, M.D., Parker's Prairie, Minn., to Miss Jean Elizabeth McEwan of Alexandria, Minn., December 12.

Charles Thompson Chamberlain, M.D., Portland, Ore., to Miss Deborah Boatner of Vidalia, La., at Natchez, Miss., November 29.

Marion F. Marvin, M.D., acting assistant surgeon, United States Army, to Miss Ella Constance Johnson of South Carolina, at Chadron, Neb., December 12.

Deaths

William Josiah McMurray, M.D. University of Nashville Medical Department, 1869; president of the Tennessee State Board of Health; a veteran of the Civil War, in which he lost his left arm; member of the Tennessee State Medical Association, Nashville Academy of Medicine and Royal Anthropological Society of London; physician of Davidson County in 1872; alderman of Nashville in 1876; one of the most prominent practitioners of Nashville, died at his home in that city, December 4, from pneumonia, after an illness of one week, aged 63.

Daniel Maxon Cool, M.D. Rush Medical College, Chicago, 1861; for several years professor of diseases of children in the Chicago Medical College; surgeon of the Third Iowa Volunteer Infantry during the Civil War; some-time member of the American Medical Association, Minnesota State Medical Society, and Rice County Medical Society; for nine years health commissioner and for many years city physician of Faribault, Minn., died at his home in that city, December 14, from heart disease, after a long period of invalidism, aged 82.

Nathan Bozeman, M.D. University of Louisville Medical Department, 1848; formerly of Mason, Ga.; a surgeon in the Confederate service during the Civil War; for many years proprietor of a hospital in New Orleans, died at his home in New York City, from cerebral hemorrhage, December 16, after an illness of one week, aged 80. His contributions to the literature and armamentarium of gynecology were numerous and valuable.

Hiram N. Rucker, M.D. University of California Medical Department (Toland Medical College), San Francisco, 1870; resident physician and superintendent of the Masonic Widows and Orphans' Home, Decoto, Cal.; a member of the American Medical Association; formerly superintendent of the Stockton State Hospital, and of the Soldiers' Home of Yountville; for a time health officer of Oakland, was run over and instantly killed by a train at Decoto, December 13, aged 55.

Colonel Cyrus Tracy Peckham M.D. Harvard University Medical School, Boston, 1879; assistant surgeon general United States Public Health and Marine-Hospital Service, stationed at Buffalo, N. Y., died at his apartment in the Markeen, in that city, December 10, from cerebral hemorrhage, after an illness of two days, aged 52. Colonel Peckham's most notable services were in the study of malaria and trachoma, and in the care of the afflicted in Galveston, after the flood.

Richard H. Tullis, M.D. Northwestern University Medical School, Chicago, 1890; a member of the American Medical Association and of the national auxiliary legislative committee in 1904-5, and president of the Oklahoma State Medical Association; one of the most prominent physicians of the Southwest, died at his home in Lawton, Okla., December 12, from typhoid fever, after an illness of ten days, aged 41.

Gustav Adolph Prieson, M.D. University of Würzburg, Germany, 1852; assistant surgeon of the Sixth Pennsylvania Volunteer Cavalry and surgeon of the Thirty-eighth Pennsylvania Emergency Militia; local surgeon to the Pennsylvania System; some-time coroner and sheriff of Clinton County, Pa., died at his home in Lock Haven, from nephritis, December 2, after an illness of eight weeks, aged 73.

Albert Thompson, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1864; assistant surgeon and surgeon of the Third Michigan Volunteer Cavalry; for two years state senator; for several years a practitioner of Colton, Cal., and mayor of that city, died at his home in Danbury, Conn., November 22, after a long illness, from heart disease, aged 74.

Lafayette O'Mahoney, M.D. St. Louis College of Physicians and Surgeons, 1896, of Columbia, Mo., who was crushed between a train and a station wall in August of last year, necessitating the amputation of both legs, died from tuberculosis at Denison, Texas, December 13, after a lingering illness, aged 32.

Putnam S. Fulkerson, M.D. Jefferson Medical College, Philadelphia, 1854; collector of Lafayette County, Mo., from 1876 to 1881; postmaster of Lexington for four years, and president of the Lafayette County Medical Association, died at his home in Lexington, December 16, after a short illness, aged 80.

William Pfisterer, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1890, for three years a practitioner in Minnesota and thereafter an invalid from paralysis, dropsy and mental disease, died at the home of his sister in New Ulm, Minn., November 23, aged 40.

Augustus Louis Jukes, M.D. Trinity Medical College, Toronto, 1865; College of Physicians and Surgeons of Ontario, Toronto, 1866; senior surgeon of the Northwest mounted police in 1882, and member of the Board of Medical Examiners of the Northwest Territories in 1886, died recently in Vancouver, B. C., aged 84.

James Elliott, M.D. New York University, New York City, 1850; said to have been the oldest practitioner of Newark, N. J.; one of the founders of St. Michael's Hospital, and for many years a member of its staff, died at his home in Newark, December 15, from senile debility, aged 88.

J. Edwin Hughes, M.D. College of Physicians and Surgeons. Keokuk, Iowa, 1876, of Almira, Wash., after confinement in the Yakima County jail for several months on charges of rape and bigamy, committed suicide, December 8, by hanging himself with a towel, from a bunk-hook.

Benjamin W. Inman, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1885, a member of the Mississippi State Medical Association, and of the Washington County Medical Society, died at his home in Leota Landing, Miss., December 11, from nephritis.

James M. Ely, M.D. Medical College of Indiana, Indianapolis, 1878; for more than 60 years a practitioner of Indiana; the oldest practitioner in Hancock County, died at his home in New Palestine, December 11, from senile debility, after an illness of nine months, aged 84.

Joseph D. Searles, M.D. County License (Huntington County, Ind.) 1897; secretary of the Huntington County Board of Health, and health officer of Huntington; for 43 years a practitioner of that city died suddenly at his home, December 2, from heart disease, aged 69.

William Joshua Arnott, M.D., C.M. Trinity Medical College, Toronto, 1893; surgeon to the Berlin and Waterloo (Ont.) hospitals; medical health officer of Berlin, and coroner of Waterloo County, died from meningitis at his home in Berlin, Ont., December 12, aged 43.

Henry Irvin Jones, M.D. University of Nashville Medical Department, 1904, a member of the Kentucky State Medical Society and the Monroe County Medical Society, died at his home near Martinsburg, Ky., from tuberculosis, after an illness of several months, aged 23.

James E. Kelsey, M.D. College of Physicians and Surgeons of Syracuse (N. Y.) University, 1873; for several years health officer of Theresa, N. Y., and at one time state health officer, died at his home in Theresa, December 10, from nephritis, after a long illness, aged 55.

William Wallace Gardner, M.D. New York University, New York City, 1865; for many years a member of the Massachusetts Medical Society; a veteran of the Mexican War, died at his home in Springfield, Mass., December 11, from senile debility, aged 79.

James M. Waddick, M.D. Miami Medical College, Cincinnati, 1868; a veteran of the Civil War; for many years connected with the Boys' Industrial Home, Toledo, Ohio, died suddenly at his home in that city, December 12, from heart disease, aged 68.

J. M. Mitchell, M.D. Memphis (Tenn.) Hospital Medical College, 1858; for four terms a member of the Tennessee legislature, and one of the most prominent practitioners of western Tennessee, died at his home in Michie, December 11, aged 72.

Charles William Jones, M.D. Cooper Medical College, San Francisco, 1891, formerly of Grass Valley, Cal., died in St. Luke's Hospital, San Francisco, from the effects of carbolic acid taken with suicidal intent, December 9, aged 36.

Charles Herbert Osborne, M.D. Bellevue Hospital Medical College, New York City, 1880, traveler and linguist, died at the residence of his sister in Newark, N. J., December 9, after an illness of ten days, from diabetes, aged 52.

Thomas Gibson, M.D. Medical College of Georgia, Augusta, 1840, one of the most widely known physicians of Georgia, died on his plantation in Twiggs County, near Macon, December 11, after an illness of several months, aged 86.

Thomas J. Hourigan, M.D. Kentucky School of Medicine, Louisville, 1898, of Gravel Switch, Ky., died at the Gray Street Infirmary, Louisville, December 12, four days after an operation for peritoneal tuberculosis, aged 40.

Clarence E. Sturgeon, M.D. College of Physicians and Surgeons of Chicago, 1905, interne at Hackley Hospital, Muskegon, Mich., died from mediastinal sarcoma, at his home in Clarion, Iowa, after an illness of nine weeks.

David O. Holmes, M.D. Memphis Hospital Medical College, 1890, formerly of Swan Lake, Ark., and Memphis, Tenn., died at Asheville, N. C., December 12, after a long illness, from tuberculosis, aged 36.

Charles W. Keyes, M.D. Howard University Medical Department, Washington, D. C., 1890, died at his home in Washington, D. C., December 19, from cerebral hemorrhage, after an illness of two days, aged 51.

Wellman M. Burbank, M.D. Castleton (Vt.) Medical College, 1844, one of the oldest practitioners of Chicago, died from senile debility at his home, December 20, after an illness of several weeks, aged 81.

George W. Ellinger, M.D. Jefferson Medical College, Philadelphia, 1878; once physician of Shawnee County, Kan., died at his home in Topeka, December 10, from paralysis, after an illness of several months.

B. F. Trabue, M.D. University of Louisville (Ky.) Medical Department, 1850, said to have been the oldest practitioner of Barren County, Ky., died suddenly at his home in Glasgow, November 29, aged 83.

William Wallace Senteny, M.D. Medical College of Ohio, Cincinnati, 1840, died at his home in Louisville, Ky., December 7, from senile debility, hastened by a fracture of the hip two years ago, aged 87.

Granville I. Leavitt, M.D. Toland Medical College, San Francisco, 1866, who had served in both houses of the Nevada legislature, died at his home in Mason Valley, the first week in December, aged 76.

William Postlethwaite, M.D. University of Louisville (Ky.) Medical Department, 1850, died at his home in Chanute, Kan., November 23, from senile debility, after an illness of three weeks, aged 87.

Alexander B. McKinnon, M.D. New York University, New York City, 1886, a member of the American Medical Association, died from diabetes at his home in Fairhaven, Bellingham, Wash., aged 58.

John M. Wilkins, M.D. University of Nashville (Tenn.) Medical Department, 1878, one of the oldest practitioners of Vermilion County, Ill., died at his home in Fairmount, December 1, aged 80.

T. A. York, M.D. Medical Department University of Tennessee, Nashville, 1886, died at his home in Greenbrier, Tenn., December 13, from paralysis, after an illness of more than a year, aged 59.

William Geddes Stark, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1877, formerly a practitioner of Hamilton, Ont., died at his home in Philadelphia, December 12.

James B. Edge, M.D. Atlanta (Ga.) Medical College, 1880, a well-known practitioner of South Georgia, died in his apartment at Cordele, December 14, after a brief illness, aged 43.

Henry C. Bowen, M.D. Ohio, 1854, for more than half a century a practitioner of Cleveland, died at his home in that city, December 13, after an illness of three years, aged 86.

John J. Smythe, M.D. Trinity College, Dublin, 185—; a fenian leader; some-time coroner of Luzerne County, Pa., died suddenly in Scranton, Pa., December 1, aged 73.

Euphrates W. Rudolph, M.D. University of Louisville (Ky.) Medical Department, 1890, died at his home in Tonkawa, Okla., November 24, from pneumonia, aged 40.

John J. Mullen, M.D. Dartmouth Medical School, Hanover, N. H., 1888, died at his home in Portsmouth, N. H., December 16, after an illness of several months, aged 42.

Moses M. Frye, M.D. Pennsylvania, 1870, of Auburn, N. Y., died at a sanitarium in Rochester, N. Y., from pulmonary tuberculosis, after a long illness, December 14.

Daniel Thurston Plumer, M.D. Harvard University Medical School, Boston, 1842, died at his home in Newburyport, Mass., December 3, from pneumonia, aged 86.

William H. Kinney, M.D. Detroit (Mich.) Medical College, 1879, of Detroit, died suddenly from cerebral hemorrhage in a coal office in Detroit, December 11, aged 52.

James E. Thomson, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1901, died at his home in Delhi, La., November 30, from appendicitis.

Maurice K. Dwinell, M.D. Massachusetts, 1883, formerly a practitioner of Waterville, Maine, died at the Maine Insane Hospital, Augusta, December 15, aged 46.

John S. M. Pride, M.D. University of Nashville Medical Department, 1862, died at his home in Culleoka, Tenn., December 2, after a protracted illness, aged 71.

F. Saxenberger, M.D. University of Leipzig, Germany, 1865, died at his home in Beatrice, Neb., from dropsy, December 15, after an illness of several years, aged 65.

Charles Ed Smith, M.D. Years of Practice, Illinois, 1887, one of the oldest practitioners of Macoupin County, Ill., died recently at his home in Palmyra, Ill.

Joseph C. Sparks, M.D. Medical College of Ohio, Cincinnati, 1853, was found dead in his home in Wyoming, Ohio, December 15, from heart disease, aged 77.

Andrew H. Gillmore, M.D. Medical College of Ohio, Cincinnati, 1855, of Terre Haute, Ind., died at the home of his daughter, in that city, December 10.

Benjamin Franklin Stevens, M.D. St. Louis, 1874, a veteran of the Civil War, died at his home in St. Jacob, Ill., December 9, from senile debility, aged 74.

Jerome Smith, M.D. Louisville Medical College, 1870, died at his home near Hodgenville, Ky., December 10, after an illness of several months, aged 74.

Sylvester Thompson, M.D. Rush Medical College, Chicago, 1885, died at his home in Galva, Ill., November 28, from pneumonia, after a short illness.

Daniel Walters, M.D. Long Island College Hospital, Brooklyn, 1897, died at his home in Wharton, N. J., December 11, from typhoid fever, aged 36.

Alfred W. Hayward, M.D. Missouri, 1894, died at his home in Mound City, Kan., December 13, from malarial fever, after an illness of a few weeks.

Philip B. Knight, M.D. Detroit (Mich.) College of Medicine, 1894, died at his home in Utica, Mich., December 18, from heart disease, aged 37.

Mary J. B. Paul, M.D. Northwestern University Woman's Medical School, Chicago, 1882, died at her home in Bryan, Ohio, November 27.

C. L. Summey, M.D. Atlanta, (Ga.) Medical College, 1876, died at his home in Stone Mountain, Ga., December 10, after a long illness.

Levi Saunders, M.D. Chicago, 1880, died recently at Brunson, Mich., from cerebral hemorrhage, after an illness of one week.

Palmer Wilbur, M.D. Cincinnati, 1872, died at his home in Alden, Mich., December 7, from heart disease, aged 72.

Otis G. Randall, M.D. Philadelphia, 1878, died suddenly at his home in Bridgewater, Mass., December 7, aged 58.

Charles A. Williams, M.D. Illinois, 1861, died at the Chicago Beach Hotel, Chicago, December 18, aged 66.

Charles B. Pillsbury, M.D. Illinois, 1879, died at his home in Duluth, Minn., March 1.

Society Proceedings

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Eighteenth Annual Meeting, held in Louisville, Ky., Dec. 12-14, 1905.

(Continued from page 1977.)

Dangers from Scopolamin-Morphin Anesthesia.

Dr. Horace J. Whitacre, Cincinnati, Ohio, based his conclusions on observations made in 40 cases of anesthesia induced by this method, on animal experimentation, and on a review of all deaths that have been reported in the literature up to the present time. The author concludes: 1, That scopolamin-morphin narcosis is not devoid of danger; 2, that the use of scopolamin-morphin alone for surgical narcosis is not justifiable, and in his experience is not practicable; 3, that a single dose two hours before operation lessens the discomforts attendant on the operative procedure to a high degree, and may obtain a definite place in surgical practice; 4, that four deaths have occurred in a series of 2,400 collected cases, which have been so definitely related to the use of this method of narcosis that they are probably scopolamin deaths; this, however, in the absence of autopsy demonstration; 5, that these deaths were reported as occurring with a type picture of alkaloid poisoning, and heart failure has been given as the direct cause of death; 6, that a fatty degeneration of the liver and kidney has been produced by repeated doses of scopolamin alone, and of the scopolamin-morphin combination, in animals; 7, that this method of producing or assisting narcosis can not yet be recommended for use in general practice, in spite of the great advantage it seems to offer.

Scopolamin-Morphin-Ethyl Chlorid-Ether Anesthesia.

Dr. H. A. Royster, Raleigh, N. C., said that of all the combinations suggested for aiding and abetting these agents, that which forms the subject of his paper commends itself to him, because he believes, first, that ether is the safest general anesthetic; second, that ethyl chlorid secures the pleasantest primary narcosis; third, that the preliminary use of scopolamin with morphin increases the patient's mental resisting power and lessens the quantity of ether. In his opinion there can be no question of the superiority of ethyl chlorid over nitrous oxid gas as a preliminary to ether anesthesia. Its action is more certain and constant and equally agreeable, and he can not help feeling that it is safer. His experience in regard to the combination of morphin and scopolamin is confined solely to the use of these drugs prior to the administration of ether. Clinical tests have led him to conclude that scopolamin is not identical with hyoscin, and that it does something more than morphin alone, and that it is safe in proper doses. He warned against careless use of scopolamin, inasmuch as several deaths have followed its employment.

Fracture-Dislocation of Condyles of Femur, with Backward Luxation of Leg.

Dr. George S. Brown, Birmingham, Ala., reported the case of a patient, aged 14, who was injured in a football game, and who was treated for three months for sprained knee. A skiagraph revealed fracture-dislocation of the condyles. He walked for four months after this with bad valgus and flexion of the leg on the thigh before submitting to an operation. The limb and knee joint were restored to normal. There was bony union of the fragments in their dislocated position. Through a four-inch incision down the inner aspect of the femur, the lower end of which stopped short of the level of the knee joint, the periosteum was cut through and pushed downward, the union chiseled through, the broken surfaces resected, and the leg brought forward on the thigh without opening the joint. The fragments were wired and the internal lateral ligament closed with kangaroo tendons. The skin was closed with a subcuticular suture of silkworm gut. Owing to the first dressing being left too long, there was a superficial infection which did not interfere with the final good result.

Technic in Appendicitis Operations.

Dr. W. P. Carr, Washington, D. C., said that in this disease it was apparent that no one method of operating will suit all cases. Surgeons must modify the technic to suit the case and the strength of the patient. In his first 100 cases he had 8 deaths. In his last 72 cases he has had but 2 deaths, and he believes the improvement in mortality is due to a fuller knowledge of the condition of the patients and a suitable adjustment of the technic to those conditions. The incision should always be either the gridiron or through the rectus muscle; otherwise hernia is very liable to follow. There is but one objection to the gridiron incision, namely, it can not be greatly enlarged without cutting across the fibers of the internal oblique and transversalis muscles. This, he thinks, should never be done. It is better to close the wound and open again through the rectus muscle if a very large opening becomes necessary. However, if this incision is well placed, it may be stretched with the fingers and a fairly large opening made through which any uncomplicated operation may be done. The stretching should never be excessive, as paralysis of the stretched muscle fibers may result, and hernia follow.

Neglected Appendicitis.

Dr. Charles M. Rosser, Dallas, Texas, concedes the safety of an acutely inflamed appendix if the pathology is limited to the structures of that viscus; but the serious mortality following cases not so treated justifies a classification of those passing the initial stage as being neglected, whether the delay is due to indifference, ignorance or cowardice, and whether the responsibility is on the family, patient, or medical adviser. The safe time limit varies with the character of the attack, the skill of the operator, and the resistance of the individual. The author considered the question of whether to operate settled affirmatively; that the question of when to operate is agreed to, if early, but he proposes the question of, who shall operate, and what operation shall be done? While appendectomies are occasionally simple of performance, yet they are prospectively delicate, and the patient is entitled to the most skillful service available in each instance, and he thinks the geographical distribution of competent surgeons is sufficiently general that there is hardly an excuse for an emergency operation by the attending physician if he is not so equipped. He advises incision in all cases at all stages except those already moribund, and in which added insult to vitality will be immediately hazardous, and a class having reached adhesive protection in which a relaxed rectal orifice indicates early rupture and discharge by that route. After incision the surgeon must decide whether to remove the appendix alone, whether removal and drainage, or whether drainage alone should be the operation of election. But as exploration can best determine another indefinite pathologic progress, the patient should be given the benefit of the doubt.

Requirements and Qualifications for a Successful Career in Surgery.

The address of the president, Dr. Lewis C. Bosher, Richmond, Va., will be published in The Journal.

Overlapping Aponeuroses in Closure of Abdominal Wounds.

Dr. Charles P. Noble, Philadelphia, recommended a method of overlapping the aponeuroses which he has used with the utmost satisfaction for nine years. In but one case does he know of a postoperative hernia where the abdominal wound was closed by this method.

Starvation and Locked Bowels for About Two Weeks.

Dr. Howard A. Kelly, Baltimore, Md., offers for a more extended trial in other fields as well a method of after-treatment which he has used in some 15 cases, for the most part in complete tears of the recto-vaginal septum. The treatment consists in two parts. First, a very limited diet for from 10 to 15 days; second, the locking up of the bowels during this period. The food is limited to albumin and water, giving nothing the day following operation, and but one dram every three hours on the second day, and increasing this a dram each day until the patient is taking four drams every three hours. In this way the patient is fed during a period of 10 days not quite three pints of albumin and absolutely no other food. One patient was continued on this diet for fifteen days without an evacuation. At least two very frail patients were treated in this way. When the evacuation takes place, two drams of licorice powder are given, and in some cases an oil enema, and the passage is secured with the patient lying on her side, so as to avoid any straining. In no case are there any scybala, or is there any difficulty with the evacuations. Dr. Kelly thinks this starvation plan of treatment should have a wider range of utility in treating dyspeptics and cases of hysteria, as well as in all kinds of plastic operations on the intestinal tract.

Surgical Treatment of Cancer of the Head and Neck.

Dr. George W. Crile, Cleveland, Ohio, presented general conclusions, that since the head and neck present an exposed field, cancer here, unlike that of the stomach, the intestines or even the breast, may be recognized at its very beginning. Every case is at some time curable by complete excision. The field of regional metastasis is exceptionally accessible; that cancer rarely penetrates beyond the extraordinary lymphatic collar of the neck; that the growth tends to remain here localized, and that by freely utilizing all the modern resources of surgery, and by applying the same comprehensive block dissection, as in the radical operation for breast cancer, the final outcome in the surgical treatment of cancer of the head and neck should be not only as good, but even better than that of almost any other portion of the body.

Late Results in Treatment of Inoperable Sarcoma with Toxins of Erysipelas and Bacillus Prodigiosus.

Dr. W. B. Coley, New York City, has used these toxins since 1892. He has advocated the treatment only in inoperable sarcoma, but in view of the successful cases he believes it wise to use the injections in all cases after primary operation for sarcoma as a prophylactic against recurrence. In these cases the dose should be much smaller, just sufficient to produce a very slight reaction, and the treatment should be continued for two to three months. He also believes it wise, in practically all cases of sarcoma of the extremities, to give the patient the benefit of a trial with the mixed toxins before sacrificing the limb by amputation. This opinion is based on 12 such cases in which, as the result of this treatment, the tumor disappeared, and in 8 of the 12 cases the patients were well from three to six years afterward. Dr. Coley gave statistics showing the results in his own and others' experience.

(*To be continued.*)

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held in Baltimore, Nov. 20, 1905.

The President, Dr. W. G. McCallum, in the Chair.

Adenocarcinoma of Stomach.

Dr. Sauers showed a man 43 years old, admitted to the hospital in June complaining of pain in the umbilical area, which had grown worse since Christmas. He had had discomfort for two years, and during the last year lost forty pounds in weight. He has had six attacks of vomiting after attacks of pain and not associated with eating. He quit work in December and took no solid food for three months. The patient's color was good; abdomen was scaphoid with pigmented areas over the epigastrium from plasters. Though weak, the patient felt good except when he had attacks of pain, which were brought on by taking any solid food, and were worse in the area of the umbilicus. The bowel felt firm in the region of the splenic colon, otherwise the abdominal examination was negative. Patient was operated on by Dr. Bloodgood, June 29, the peritoneal cavity being opened by a median incision extending from ensiform to below the umbilicus. A carcinomatous growth was found on the lesser curvature of a moderately dilated stomach 3 cm. below the pylorus. Practically all the lesser curvature was removed, together with an adjacent gland showing metastasis. All the fat was removed with the lesser curvature, and adhesions binding the stomach to the pancreas were broken up, showing an area of induration in the central portion of the pancreas. The duodenal and stomach ends were reinforced, a loop of the duodenum being anastomosed to the posterior wall of the stomach. The pancreas was left intact, an inflammatory induration of the pancreas, in cancer of the stomach, not indicating removal as a cancerous involvement would. Patient left the hospital on July 30, and has since gained 32 pounds in weight. He has had no vomiting or pain, and bowels are regular. After a test meal of 100 c.c., 12 c.c. were gotten an hour later. Pathologically the tumor, which was a large fungous mass on the lesser curvature of the stomach, reaching to within 3 c.c. of pylorus, was an adenocarcinoma.

Congenital Stenosis of the Pylorus.

Dr. Charles S. Scudder, Boston, said that until recently cases of congenital stenosis of the pylorus have been seldom recognized. The disease has been almost universally fatal. The first case reported was by Beardsley of New Haven in 1788. A case was reported in 1841 and a case in 1842. These were the only two reported during the 100 years between Beardsley's report in 1788 and Kirschbaum's in 1888. Since 1888 there have been 35 autopsies, with findings both definite and constant. Dr. Scudder discussed in detail the clinical history and treatment of this affection.

Relation of Dilatation of the Duodenum to Gastric Disturbances.

Dr. J. M. T. Finney said that five or six years ago on opening the abdomen for a variety of conditions, particularly conditions of the stomach, duodenum and gall bladder, a condition was found which was not mentioned in the literature, i. e., a dilatation of the duodenum with a patent condition of the pylorus. At that time pyloroplasty was done for want of something better. The patients gave a history of indigestion for months or years, of nausea and vomiting, and symptoms that were indefinite but distressing. Most of the patients had had medical treatment without results. In all the cases there was Glenard's disease. The condition presented by the patients was unsatisfactory for operation. When these cases were first noticed gastroenterostomy was in its infancy. Nothing that was done seemed to benefit the condition. The nearest to a description of the condition was a paper read by A. J. Ochsner in San Francisco this year, in which he reports 14 cases. Mayo, in a recent article on stomach diseases, refers to this condition. He says it is associated with enteroptosis, but does not say what to do for it.

Autopsies on 46 postoperative cases, only one of which was recognized clinically, have been reported from Vienna. The duodenum passes behind the superior mesenteric vessels, the superior mesentery itself running down to the right iliac fossa. When the stomach is much dilated, filled with fluid and has descended to the pelvis, there is a dragging on the mesentery and vessels. This is apparently one obstruction. To the proximal side the intestine is dilated, and at the distal side it is collapsed. Rokitansky in the fifties suggested that this condition might happen. Glenard also suggests that dragging on the mesentery might obstruct the duodenum. In 4 of the 46 Vienna cases the stomach was not markedly dilated, though in most of the cases it had descended. The explanation is not satisfactory for the condition. The dilatation is the effect, not the cause, though it may be both. Two cases have been reported after operations other than abdominal, one being a breast removal and the other an operation on the elbow. Schnitzler suggests that it takes place after anesthesias, particularly after chloroform. Only one case was diagnosed before autopsy.

The treatment is postural. Put the patient in the knee-chest position for fifteen minutes every two hours or have her lie on the left side with hips elevated. Lavage has been tried with some success. The condition generally occurs in nervous patients who are not well nourished and who have enteroptosis. The condition is not necessarily a fatal one, though it has not been recognized. A jejunostomy is the operation to get below the obstruction. Diagnosis is made rather on the continuous vomiting. In some of the cases the obstruction has been near the pylorus, in others below the papilla of Vater, for the patient vomits great amounts of dark, bile-stained fluid. This condition, with both the anti-operative and postoperative types, is a definite entity. No other observer has noted the circular, muscular bands around the duodenum, which Ochsner noted, and who draws an analogy between the pylorospasm and a spasm at the ileocecal valve. Gastroenterostomy has been done several times and found wanting. In postoperative cases the postural method or jejunostomy, might be tried.

DISCUSSION.

Dr. Hemmeter said that an "hour-glass stomach" had been brought to him which, on examination, showed no scar, and proved to be stomach and duodenum. There are three causes for dilatation in hollow muscular organs: First, abdominal fermentation; second, mechanical causes, such as the ring described by Ochsner, and the dragging of the mesentery; third, faults of innervation, Meltzer's reciprocal innervation theory, i. e., simultaneously as an impulse travels through and contracts the longitudinal fibers, the circular fibers relax, e. g., contraction of stomach and loosening of the pylorus. Boas has described infra-papilla and supra-papillar obstructions. In only the cases below the papilla of Vater is their pancreatic juice in the vomitus, hence the trypsin test may be of considerable diagnostic value.

Dr. Cushing agreed with Dr. Hemmeter that the trouble is in the thin-walled stomach and duodenum associated with Glenard's syndrome, and that the tenth nerve is a considerable factor. A division of the tenth nerve in an animal leads to incessant vomiting until death occurs. In the separation of adhesions around a pylorus and gall bladder, the fibers of the tenth nerve may be so injured as to throw out this area and allow dilatation. A case from private practice was a female

57 years old. There was nothing in the past history that had any bearing on the symptoms, except that at 17 years she had had jaundice. She was a thin multipara, with the lower border of the stomach below the umbilicus. At operation a dilated stomach and duodenum were found with the scar of an old ulcer at the pylorus. A pyloroplasty could not be done on account of the sagging of the stomach, so he reversed the pyloroplasty, shortening the lesser curvature. Patient vomited for ten days incessantly, but gradually stopped and now is well. An operation of the same type as this modified pyloroplasty can be done at the ileocecum.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Local Treatment of Erysipelas.

The following combination is recommended by the *Medical Review of Reviews* as a local application in the treatment of erysipelas:

℞. Guaiacol
Tinct. iodii
Spiritus rectificat.
Essentiæ menth. pip., āā..............ʒii 8|

M. Sig.: Apply locally on gauze from two to four times a day.

Gallstones.

A. Hechet, in an abstract in the *Monthly Cyclopedia of Medicine*, recommends in the treatment of gallstones, inasmuch as the preparations of nux vomica increase peristaltic action, and calomel increases the secretory flow, that this combination should serve a good purpose in the prevention of their formation. By this means sufficient peristalsis and biliary flow render it almost impossible for the stasis of bile, without which gallstone formation is improbable. The action of nux vomica also aids the prevention of gallstones by increasing the appetite, and thus exciting the formation of a large amount of bile. The mode of living must necessarily be regulated as well as the diet, in order to prevent infection of the bile tract. In the interval between the attacks of colic, the following combination is recommended by the author:

℞. Hydrargyri chloridi mitis |
Extracti nucis vomicæ, āā.......gr. vi-viiss |40-.50
Extracti rhei........................gr. xx 1|30

M. Ft. capsule No. xxx. Sig.: Two to three capsules to be given daily.

This combination does not produce diarrhea or intestinal colic, and at the same time tends to increase the flow of bile. Gallstone colic requires the administration of morphin hypodermically, with a pill combined as follows:

℞. Podophyllin ....gr. iii |20
Hydrargyri chloridi mitis,.......... gr. vi |40
Ext. nucis vomicæ |
Ext. belladonnæ, āā..................gr. iiss |27

M. Ft. capsulæ No. xx. Sig.: One capsule every two hours until the patient is relieved, then one or two capsules a day.

Treatment of Uremic Convulsions.

W. J. Wilson, in the *Therapeutic Gazette*, recommends in the treatment of uremic convulsions, which is the most dreaded complication in acute or chronic nephritis, and as a complication of pregnancy, that chloroform be first administered to control the convulsions. A thorough movement of the bowels should be secured by the administration of croton oil in 1 to 5 minim doses (.30), mixed with a little sweet oil and dropped on the tongue. As soon as it is possible to do so, the following combination should be administered:

℞. Chloralis hydratis...............gr. x-xxx |65-2.00
Sodii bromidi......................gr. xxx 2|

M. Ft. pulvis. Sig.: To be administered in water by the mouth or by rectal injection.

He also recommends the employment of the tincture of veratrum viride in 4 minim (.25) doses every one or two hours until the pulse is reduced to normal or slightly below normal.

If the patient is plethoric, he recommends the withdrawal of from 12 to 30 ounces of blood by venesection.

In anemic patients, when such measures are employed, the amount of blood removed should be replaced by normal saline solution.

The patient should be placed in a hot pack or a dry hot air or vapor bath. The use of pilocarpin is not recommended by the author as being of such value as was formerly supposed. This outline of treatment is applicable in uremia following either kidney trouble or pregnancy. In cases of pregnancy, unless labor does not set in spontaneously, and the convulsions are not relieved by this treatment, either vaginal Cesarean section or other methods of emptying the uterus must be employed.

Fissure Ani.

The following combination is recommended by *Bulletin Gen. de Therapeutics* as an ointment in the treatment of fissure of the anus:

℞. Cocainæ hydrochloratis |
Ext. belladonnæ, āā.....................gr. i |6
Ichthyoli ....ʒiss 6|

M. Ft. unguentum. Sig.: Thoroughly cleanse the parts and apply locally two or three times daily.

The Treatment of Burns.

After giving the ordinary classification of burns Ambrose McCoy, in *International Journal of Surgery*, states that the first thing to be done is to relieve the pain, and that this should be done promptly.

The important thing in the consideration of the local treatment is to completely exclude the air from the burned surfaces, if possible. The old combination of linseed oil and lime water may be used, but it is not used so much at present as formerly was the case. However, it relieves pain rather promptly and effectively. The disadvantage of this liniment is the difficulty of removing it when once applied and allowed to dry. Another objection the author brings out is that there is a tendency to suppuration after its use. Picric acid may be used in burns of the first and second degree by applying gauze wet with a saturated (5 per cent.) solution of this acid directly to the surface, and over this gauze a layer of absorbent cotton, over which a roller bandage should be firmly applied. The advantage of this application is that it relieves pain, it is a decided antiseptic, and it is not followed by suppuration. It is very easy to remove, as a rule, and the yellow stains which may follow the application of this acid can be easily removed by the application of alcohol. The best dressing, however, according to McCoy, is a combination of carbolic acid and glycerin in varying proportions; one part of carbolic acid to three, four or five parts of glycerin is the strength he recommends. Strips of gauze may be saturated in this mixture and applied to the raw surface. Over this the cotton and roller bandage may be placed, as previously mentioned. He mentions the local anesthetic effect, and the consequent relief of pain on the application of this mixture. It is also a very decided antiseptic. [When carbolic acid dressings are employed the kidneys should be carefully watched.] This treatment may be followed up for the first few days of the injury. If there is a tendency to suppuration after the acute symptoms have subsided, the ulcerating wound is treated in a general way. To aid in the formation of granulation tissue and in the healing process he recommends in this stage the use of ointments, such as carbolic salve, ointments of iodoform or oxid of zinc.

The danger of deformities in severe burns about the hand and wrist is mentioned, and the use of flat splints in such cases is advised. The same precautions should be taken in burns about the knee and elbow joints. In cases of long duration and slow healing, where the burns have extended over a large area, skin grafting may have to be employed. Contrary to the advice of most authorities that dressings should not be changed often, the writer recommends that in cases of burns he has made it a rule to dress the lesions as often or even oftener than in disturbances to the skin produced in other ways. This is owing to the fact that there is a free discharge of serum, and in some cases a free discharge of pus, both of which will require frequent dressing. He, therefore, recommends redressing once or twice daily.

As internal treatment he recommends the maintenance of the free action of the kidneys by the administration of large amounts of water and other liquids.

Medicolegal

Validity of Law Forbidding Marriage of Epileptics.

In 1895 a statute was enacted in Connecticut of which the first section reads as follows: "No man or woman, either of whom is epileptic, imbecile, or feeble-minded, shall intermarry, or live together as husband and wife, when the woman is under 45 years of age. Any person violating or attempting to violate any of the provisions of this section shall be imprisoned in the state prison not less than three years." Was this statute a valid act of legislation? The Supreme Court of Errors of Connecticut considers this question, in the case of Gould vs. Gould, with reference to epileptics only, explaining that the provisions of the act are separable with respect to the different classes of persons with whom it deals, and, so far as this case was concerned, it was enough if it could be supported as to marriages contracted after its enactment by those in the condition of the defendant. It says that the constitution of the state guarantees to its people equality under the law in the rights to "life, liberty, and the pursuit of happiness." One of these is the right to contract marriage, but it is a right that can only be exercised under such reasonable conditions as the Legislature may see fit to impose. It is not possessed by those below a certain age. It is denied to those who stand within certain degrees of kinship. The mode of celebrating it is prescribed in strict and exclusive terms. The universal prohibition in all civilized countries of marriages between near kindred proceeds, in part, from the established fact that the issue of such marriages are often, though by no means always, of an inferior type of physical or mental development. That epilepsy is a disease of a peculiarly serious and revolting character, tending to weaken mental force, and often descending from parent to child, or entailing on the offspring of the sufferer some other grave form of nervous malady, is a matter of common knowledge, of which courts will take judicial notice. One mode of guarding against the perpetuation of epilepsy obviously is to forbid sexual intercourse with those afflicted by it, and to preclude such opportunities for sexual intercourse as marriage furnishes. To impose such a restriction on the right to contract marriage, if not intrinsically unreasonable, is no invasion of the equality of all men before the law, if it applies equally to all, under the same circumstances, who belong to a certain class of persons, which class can reasonably be regarded as one requiring special legislation either for their protection or for the protection from them of the community at large. It can not be pronounced by the judiciary to be intrinsically unreasonable if it should be regarded as a determination by the General Assembly that a law of this kind is necessary for the preservation of public health, and if there are substantial grounds for believing that such determination is supported by the facts on which it is apparent that it was based. There can be no doubt as to the opinion of the General Assembly, nor as to its resting on substantial foundations. The class of persons to whom the statute applies is not one arbitrarily formed to suit its purpose. It is certain and definite. It is a class capable of endangering the health of families and adding greatly to the sum of human suffering. Between the members of this class there is no discrimination, and the prohibitions of the statute cease to operate when, by the attainment of a certain age by one of those whom it affects, the occasion for the restriction is deemed to become less imperative. While Connecticut was the pioneer in this country with respect to legislation of this character, it no longer stands alone. Michigan, Minnesota, Kansas, and Ohio have, since 1895, acted in the same direction. Laws of this kind may be regarded as an expression of the conviction of modern society that disease is largely preventable by proper precautions, and that it is not unjust in certain cases to require the observation of these, even at the cost of narrowing what in former days was regarded as the proper domain of individual right. It follows that the statute in question was not invalid, as respects marriages contracted by epileptics, after it took effect. Furthermore, the court holds that the Superior Court has the power to pass a decree of divorce from the bonds of matrimony in favor of a party to a marriage, not an epileptic, who has been tricked into it by the other party, who was an epileptic, through his fraud in inducing a belief that he was legally and physically competent to enter into the marital relation and fulfill all its duties, when he knew that he was not. The fraud which makes the contract of marriage fraudulent, as that word is used in the statute of divorce, is a fraud in law and on the law. Such a fraud is accomplished whenever a person enters into that contract knowing that he is incapable of sexual intercourse, and yet, in order to induce the marriage, designedly and deceitfully concealing that fact from the other party, who is ignorant of it, and has no reason to suppose it to exist. Whether such incapacity proceeds from a physical or a merely legal cause is immaterial.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

December 16.

1 Cause, Course, Prevention and Treatment of Beriberi. H. Wright.
2 *Short Narcosis, the Short Incision and the Short Stay in Bed After Ideal Operations. B. Holmes, Chicago.
3 Intracorpuscular Conjugation in the Malarial Plasmodia and Its Significance. C. F. Craig, Manila, P. I.
4 Subjective Ozena. J. Knott, Dublin, Ireland.
5 What is a Poison? R. G. Eccles, Brooklyn, N. Y.
6 *Pinworms as a Cause of Appendicitis. D. F. Monash, Chicago.

2. Short Narcosis, Short Incision, and Short Stay in Bed After Ideal Operations.—Holmes believes that too much time is often spent by the patient on his back after operation, and too little by the surgeon at the bedside and in the laboratory before the operation. In order to make the stay of the patient short after surgical intervention, he should be studied in the hospital for days or even weeks before operation is undertaken. Holmes has found that patients can readily be kept anesthetized the necessary twenty minutes or half-hour by the employment of gas with only occasional resort to ether. In a few instances, on account of obesity, chloroform has been used to continue the anesthesia. The short incision is one of the dictates of good surgical judgment, as it inflicts the minimum amount of traumatism and gives adequate access to the field of operation. With the small incision, the complications which the protrusion of abdominal viscera add to the operation are unknown. Operators who have been accustomed to use incisions from 4 to 6 inches long are surprised to find that they are able to accomplish the same results more rapidly, with less traumatism and with fewer postoperative discomforts to the patient with an incision 1½ or 2 inches long. The duration of the operation is curtailed, the intoxication and the discomforts of the anesthetic are lessened, the danger of hernia is minimized, the necessity of a long stay in bed is obviated, and the chances of infection through the introduction of many stitches are diminished.

6. Pinworms as Cause of Appendicitis.—Monash states that pinworms are prone to invade the appendix from their habitat in the cecum. Pocketed in the appendix, they and their ova can not be dislodged, and by reinfecting the intestinal tract which has been thoroughly cleansed for relief of pinworms the disorder is obstinately continued. Accumulating in large numbers, they block the lumen and set up violent spasmodic contractions of the appendix in its efforts to expel the contents, thus coinciding with the clinical picture of appendicular colic. After a portion is expelled relief follows and the colicky attack is not repeated until the appendix is again distended by

large numbers of parasites. Repeated attacks are associated with pathologic changes in the mucosa as shown in cases reported. The sharp fine-pointed tail of the female worm which causes irritation of the colonic and rectal mucosa also produces catarrhal changes in the appendix, thereby paving the way for bacterial invasion of the deeper tissues. Anthelmintic treatment is useless, and in an acute attack even dangerous. Removal of the appendix relieves both affections. Two cases are cited.

Medical Record, New York.

December 16.

7 *Inhibitory and Anesthetic Properties of Magnesium Salts. S. J. Meltzer, New York.
8 Treatment of Certain Affections Interesting Both the Physician and the Surgeon. C. A. McWilliams, New York.
9 *Routine Procedure of the Clinic for the Treatment of Communicable Pulmonary Diseases of the Department of Health. J. S. Billings, Jr., New York.
10 Treatment of Bronchopneumonia. S. A. Visanska, Atlanta, Ga.
11 Circulatory Failure, Its Nature and Treatment. L. F. Bishop, New York.
12 Therapeutic Value of Static Electricity. M. C. Rice, Chicago.
13 *Treatment of Chronic Constipation. J. A. MacMillan, Detroit.
14 Case of Fractured Tibia and Fibula; Delayed Union and Its Treatment. L. M. Kommel, New York.

7. Inhibitory and Anesthetic Properties of Magnesium Salts.—Meltzer reports the results of a number of experiments conducted by himself and John Auer at the Rockefeller Institute. Of the four main inorganic constituents of the animal body—sodium, potassium, calcium and magnesium—the effects on nerve and muscle of only the first three have been very carefully studied, those of magnesium for some reason having hardly been considered at all. In studying the action of various substances injected into the brain Meltzer found that magnesium produced paralysis rather than convulsions. Pursuing this lead, he found that this element with its salts invariably caused depression or inhibition of nervous and muscular action. In a few seconds after the injection of a small dose of the sulphate or the chlorid of magnesium respiration ceased and the animal would die without the struggle of asphyxia and without any sign of sensation unless artificial respiration was practiced for a long time. When injected rapidly, 0.1 of magnesium sulphate is profoundly toxic, but as much as 1.5 of the salt, if injected slowly in the course of an hour, will occasion no untoward symptoms. Herein is the probable explanation of the fact that the sulphate, when taken in the ordinary way, produces no poisonous symptoms; some absorption doubtless occurs, but it occurs so slowly as to be harmless. In another series of experiments it was ascertained that solutions of magnesium salts applied directly to a nerve trunk caused a complete block, abolishing conduction entirely. In a third series it was found that by means of subcutaneous injection of magnesium salts complete general anesthesia, with perfect relaxation of the muscles, but without impairment of the vital reflexes, was produced. In a fourth series of experiments the magnesium salts were injected into the subarachnoid space of the spinal cord, mostly by lumbar puncture. Monkeys were the animals experimented on. The injection of magnesium sulphate in a dose of about 0.06 per kilo of the animal's weight within a minute or two caused complete anesthesia and paralysis of the tail and hind legs. This discovery has been put to practical use in 12 operations performed under the influence of intraspinal injection of magnesium sulphate. The highest dose employed was 0.2 per kilo, or 15 drops of a 25 per cent. solution for each 20 pounds of body weight. In the first 8 cases some chloroform was used to supplement the effect, as the tentative doses of the salt were very small, but in the last 4 the magnesium alone sufficed. The best time for operating was found to be three or four hours after the spinal injection. As a precautionary measure the author insists that the Fell-O'Dwyer apparatus for artificial respiration be on hand whenever this magnesium anesthesia is employed. Finally Meltzer reports the cure of a case of tetanus at Roosevelt Hospital. After the employment of 115 c.c. of tetanus antitoxin without effect, the first injection of a solution of magnesium sulphate afforded great relief for thirty-six hours, and after a few more injections the patient was pronounced cured.

9. Treatment of Communicable Pulmonary Diseases.—Billings describes the routine procedure followed at the tuberculosis clinic of the New York City Department of Health.

13. Treatment of Chronic Constipation.—Macmillan has found the use of rectal tampons a very valuable method of treatment in chronic constipation, of the atonic variety. The tampon is made of absorbent cotton, cheese cloth, or lamb's wool, and should be sufficiently large to cause some distension of the bowel. It can be inserted through an ordinary proctoscope and packed into place by means of a long forceps. The best results are obtained when it is placed at the rectosigmoidal junction. The tampon is provided with a piece of string to facilitate withdrawal at the end of from two to six hours. At first the tampon is used every other day, and the interval between treatments is gradually lengthened as improvement follows.

Medical News, New York.

December 16.

15 Adaptation of the Public to th[illegible] [illegible]es of the Prevention of Tuberculosis. [illegible] [illegible]lphia.
16 *New Operative Procedure in [illegible] B. L. Wright, U. S. N.
17 Detection of Functior[illegible] [illegible]estion by the Examination of the [illegible] [illegible]iladelphia.
18 *Amebic Infection o[illegible] Without Recto-vesical Fistula. J[illegible] Musgrave, Manila, P. I.
19 *Dissemination of Tuberculosis as Affected by Railway Travel. C. B. Dudley, Altoona, Pa.
20 General Consideration of the Contagious Diseases of the Scalp and Skin Observed in Children of the Public Schools. J. Sobel, New York.
21 *New Supporter and Pouch for the After-Treatment of Artificial Anus. J. H. Gleason, Manchester, N. H.
22 Centrifugal Urinary Analysis. A. L. Benedict, Buffalo, N. Y.
23 Use of Egg Albumin in the Technic of Staining the Capsules of Bacteria. A. A. Epstein, New York.

16. New Operative Procedure in Intestinal Anastomosis.—The cut ends of the intestine being in position for suturing, Wright introduces three temporary or stay sutures, which divide the circumference of the intestine into three parts. The first suture (they are all Lembert sutures) is introduced at the mesenteric attachment; the second, a third of the circumference of the bowel distant from the first; the third, similarly introduced, two-thirds the circumference of the bowel distant from the first suture. These sutures are left long, their free ends being tied together or secured by forceps. An assistant grasps the first and second sutures, one in each hand, and by firmly drawing these in opposite directions, the free edges of the gut are inverted and come into close approximation, forming a ridge raised above the general surface of the bowel, through which the permanent suture can readily be passed. The operator, with a straight needle threaded with the suture material he prefers, passes the needle through this ridge from side to side, and by continuous suturing the first third of the gut is closed by a continuous modified Lembert suture. The same procedure is carried on in the remaining two-thirds of the bowel circumference. The temporary stay sutures are then removed, or they may be tied and cut. The operation is completed by suturing the mesentery.

18. Amebic Infection of Intacted Urinary Bladder.—It appears that the bladder of Musgrave's patient was infected by a ward attendant who irrigated the bladder without having cleansed his hands after having given colonic irrigations to patients with amebic dysentery.

19. Dissemination of Tuberculosis by Railway Travel.—Dudley believes that experiments carried on by him indicate very clearly that the danger of infection from the upholstery in Pullman cars and coaches is very much less than from naked surfaces, and that the crusade against hangings and carpets and plush is not founded on careful experimental data.

21. Pouch for Artificial Anus.—Gleason has devised a supporter and pouch to be worn by patients on whom a temporary or a permanent artificial anus has been made. The pouch is made of thick, pliable rubber, with an opening 2¼ inches in diameter. Surrounding the opening is a hard rubber (vulcanized) ring ¾ inch in width and having a slightly convexed articulating surface. Attached to this ring are two circular fixing and retaining body straps and two perineal straps. The length from the lower rim of the ring to the convexity of the pouch is 4 inches, the total length of rim and pouch being 7¾ inches.

Boston Medical and Surgical Journal.

December 14.

24 *The Physician's Duty Toward Tuberculosis. A. T. Cabot, Boston.
25 *Four Unusual Cases of Aneurism. E. A. Locke, L. I. H.
26 Some Reminiscences of the Harvard Medical School of Forty Years Ago. D. Coggin, Salem, Mass.

24. **Physician's Duty Toward Tuberculosis.**—Cabot urges the registration of all cases of tuberculosis; disinfection of the premises; instruction and sanitary inspection in case of patients who can not be separated from their homes; sanatoria for curable cases; hospitals for the isolation and care of the actively infectious and seemingly incurable cases; exclusion from schools of children with contagious forms of tuberculosis, and the isolation of tuberculous individuals in prisons and state reformatories.

25. **Unusual Cases of Aneurism.**—The first patient mentioned by Locke gave a history of having had syphilis in youth, tuberculosis of both hip joints of twenty-five years' duration; double inguinal hernia; marked arteriosclerosis; relative mitral insufficiency; tabes dorsalis; chronic interstitial nephritis; deformity of spine; aneurism of the left axillary artery, possibly following trauma, which reached an enormous size and finally ulcerated externally, with the death of the patient five days later. The second patient, also a victim of arteriosclerosis, had an aneurism of the transverse aorta, the first sign of which was a sudden attack of hematemesis. Nine days later he had a second attack which proved fatal after ten hours, from ulceration and hemorrhage into the esophagus at the level of the bifurcation of the trachea. The third patient, a syphilitic, had multiple saccular aneurisms of the aorta which ruptured into the retroperitoneal tissue with subsequent erosion of the vertebræ, hydrothorax and atrophy of the left kidney. The patient died four months after the onset of the symptoms. A fourth patient had multiple aneurisms of the abdominal aorta with ulceration into the third portion of the duodenum and hemorrhage into the stomach and intestines. Death occurred four days after the rupture.

New York Medical Journal.

December 16.

27 Management of Abortion. A. F. Currier, Mount Vernon, N. Y.
28 Ventral Suspension. S. Chandler, Philadelphia.
29 Infective Sigmoid Sinus Thrombosis and Jugular Vein Infection of Otitic Origin Without Apparent Mastoid Involvement in an Adult; Operation; Recovery. J. D. Richards, New York.
30 Contribution to the Surgery of the Prostate Gland. M. R. Barker, Chicago.
31 Etiology and Treatment of Constipation. H. A. Bray, Philadelphia.
32 Malformations of the Uterus. A. A. Kerr, Salt Lake City.
33 Infant Feeding in Summer, with a Partial Study of Economic and Sanitary Conditions. A. D. Smith, Brooklyn, N. Y.
34 Pathology of Paretic Dementia. H. A. Wright, Detroit, Mich.

Lancet-Clinic, Cincinnati, Ohio.

December 16.

35 *Prostatectomy. W. D. Haines, Cincinnati.
36 Prevalence, Pathology and Prevention of Gonorrhea. J. C. Larkin, Hillsboro, Ohio.
37 *Surgical Dressing. C. E. Black, Jacksonville, Ill.

35.—See abstract in The Journal, Oct. 28, 1905, page 1353.

37. Id.—Oct. 21, 1905, page 1271.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

December 2.

1 Intracranial Tumors. J. Taylor.
2 Crystalline Lens in Health and in Cataract. W. J. Collins.
3 *Human and Bovine Tuberculosis. H. Kossel.
4 Inflamed Retroperitoneal Hernia (So-called Duodenal). R. L. Knaggs.
5 Retroperitoneal Fibrolipoma; Operation; Recovery. R. J. Johnstone.
6 *Rats in Relation to Plague. B. Skinner.

3. **Human and Bovine Tuberculosis.**—Kossel discusses this question in detail and summarizes his paper as follows:

1. By bacteriologic investigation of tuberculous lesions in human beings, cattle and swine, two types of tubercle bacilli can be detected which may provisionally be called *typus humanus* and *typus bovinus*. 2. The widespread tuberculosis of cattle is to be traced exclusively to infection with tubercle bacilli of the *typus bovinus*. 3. Swine are susceptible in a high degree to the tubercle bacilli of the *typus bovinus*, in a lesser degree to those of the *typus humanus*. 4. The tuberculosis of human beings chiefly arises from infection with tubercle bacilli of the *typus humanus*, which is transmissible from man to man. 5. Tuberculous lesions in human beings can be produced by tubercle bacilli of the *typus bovinus*. 6. Tubercle bacilli of the *typus bovinus* can be transmitted to human beings by food derived from tuberculous animals, especially by milk of cows affected with tuberculosis of the udder. 7. The part played by infection from bovine sources in spreading tuberculosis in man is small in comparison to the danger threatening from a consumptive human being.

6.—See abstract in The Journal, Sept. 23, 1905, page 947.

The Lancet, London.

December 2.

7 A Metastatic Mystery. W. R. Gowers.
8 Cerebellar Abscess Due to Infection Through the Internal Auditory Meatus. E. W. Roughton.
9 General Principles of the Therapeutic Inoculation of Bacterial Vaccines as Applied to the Treatment of Tuberculous Infection. A. E. Wright.
10 *Treatment of Tuberculosis by Tuberculin. W. Bulloch.
11 Comparative Study of the Lincoln, Maidstone and Worthing Epidemics of Typhoid Fever. C. Childs.
12 Descendants of the Tuberculous and Hereditary Predisposition. G. Ogilvie.
13 Diagnosis of Ocular Paralysis. A. S. Percival.
14 Condition of Patients After the Removal of the Vermiform Appendix. L. Jones.
15 De Senectute. S. Wilks.

10. **Treatment of Tuberculosis by Tuberculin.**—Bulloch cites the results obtained in the treatment of 11 patients, the majority of whom were regarded as incurable. There were 2 cases of genitourinary tuberculosis, 2 of gland tuberculosis and 7 of lupus. All the patients except one improved very much under this treatment, seven of them being apparently cured. The case in which there was no improvement was one of extensive abdominal tuberculosis. In one case of lupus the treatment had to be discontinued because, apparently, the inoculations could not be tolerated.

Journal of Tropical Medicine, London.

November 15.

16 Notes from Angola. F. C. Wellman.
17 *Rational Treatment of Dysentery. V. G. Desai.
18 Smallpox Inoculation in India (continued). G. H. Fink.

17. **Treatment of Dysentery.**—Desai urges the value of intestinal irrigation over internal medication in the treatment of dysentery. He uses a hot boric-acid solution, containing one dram of boric acid with a pinch of sodium carbonate to one ounce of water, massaging the abdomen gently during the irrigation. Internally he uses the bark of *Holarrhœna antidysenterica*, a small bushy plant very common in southern India, whose native name is *pandarakorda*. The bark of the root only is used. It is macerated in sour whey, one wineglassful of the solution being taken four times a day. Desai says that this solution is pleasant to the taste and is carminative and diuretic. This drug is far superior to ipecac and acts well in what he terms the "white" variety of dysentery. It also has marked febrifuge properties and produces diaphoresis. He states that ipecac, of value in the treatment of the "red" variety of dysentery, but that some nervous individuals can not take it. Castor oil, he states, invariably cures mild cases of dysentery, especially in children. It flushes out the intestine and removes irritating matter while it is astringent in its after effects. In plethoric patients he finds the following saline solution useful:

℞. Sodii sulph.
Magnesii sulph., āā........................ʒi 4|
Sodii chlor............................gr. x |12
Aq. chloroformi ....℥i 30|

Desai does not approve of giving bismuth or opium till after the intestinal tract has been cleansed of all irritating substances. As a diet he favors pure milk to which a little salt is added. He does not favor soups or albumin water.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

19 (XXXI, No. 43.) Zur Diagnose, Prognose und Therapie der Paralysis agitans. H. Oppenheim. Clinical lecture.
20 *Ueber die Spirochæte pallida. E. Hoffmann.
21 **Die experimentelle Erzeugung von Aneurysmen* (production). B. Fischer (Bonn).
22 *Zur Technik der sofortigen Eröffnung einer Enterostomie und des Anus praeternaturalis. Offergeld.
23 Bullet Wound of Spine.—Fall von Schussverletzung der Brust-Wirbelsäule mit Brown-Sequardscher Halb-Seiten-Läsion und Klumpkescher Lähmung. Federmann.
24 *Zur Heilung von Pseudarthrosen. P. Jottkowitz.
25 Kasuistischer Beitrag zur Anencephalie und zur Geburt bei derselben. Durlacher.

20. Spirochetes in Syphilis.—Hoffmann's experience now includes 300 cases of syphilis in which the *Spirochæta pallida* was found. Its discovery in fresh, dubious lesions was always followed by the development of the lesions into the unmistakable syphilitic type. He has never found it in non-syphilitic affections, and doubts the accuracy of the technic in the few instances in which others claim to have found it in non-syphilitic lesions.

21. Experimental Production of Aneurisms.—By injection of blood-pressure-raising drugs, such as extract of the suprarenal glands, Fischer succeeded in causing aneurisms in rabbits, but not in dogs. The process was a primary necrosis of the musculature and elastic elements of the media, never arteriosclerosis. His experiments show that in a given affection the etiology is not the essential factor, but rather the organism itself. It reacts to very different toxins with one and the same clinical affection.

22. Technic for Immediate Enterostomy and Artificial Anus.—Offergeld expatiates on the advantages of safely making an opening into the intestine at once in certain conditions, and describes the technic which he has used repeatedly with very satisfactory results. The loop of intestine is brought out, a strip of gauze is passed under it, and it is sutured to the peritoneum and to the fascia. An opening is made in the loop with a trocar, and a Nélaton catheter with a plug in the handle is introduced into the hole thus made and worked through until its tip is in the loop above. A fold is then taken up in the intestine on each side of the catheter, and the two folds are brought together over the catheter and sutured to roof it in, forming a tunnel 5 or 6 cm. long. The escape of gases and fluid feces through the catheter can be controlled with the plug in the catheter to avoid too abrupt changes in the condition in the viscera. The rapidity with which this enterostomy can be done, and its absolute continence, are great points in its favor. After the tunnel has been made and it is desired to make an artificial anus later, the thermocautery can be applied over the opening into the intestine.

24. Treatment of Pseudoarthrosis.—Experience with 2 patients has convinced Jottkowitz that local injection of tincture of iodin in and around the lesion is the best method of treatment. He injected 2 and 4 c.c. respectively, at a single sitting. The resulting pain was bearable, and the treatment resulted in a complete cure. The patients were a young woman with a fractured ankle and a man of 61 with a fractured leg. Tachard has reported similar success from injections of tincture of iodin in 2 cases, after failure of all other measures to induce firm, bony union.

Gazzetta degli Ospedali, Milan.

Last indexed page 1699.

26 (XXVI, No. 118.) Atassia acuta astasia abasia consecutive ad un'angina non difterica. T. Silvestri.
27 Arterite diplococciche e gangrene delle estremita. G. Matirolo.
28 (No. 119.) *Lo siero bivalente e bactericida nella cura della difterite. F. C. Constantini.
29 (No. 120.) *La terapia nella pneumonite crupale. E. Gugnoni.
30 (No. 1[illegible] the Leucocytes are Parasites [illegible] —Una nuova teoria intorno alla [illegible] oni.
31 (No. 1[illegible] subfrenico. G. Gaspariri.
32 *I [illegible] refle[illegible] (abdominal reflexes in [illegible]
33 [illegible] a curata coll'operazione di Talma. F. [illegible] ul case.
34 [illegible] of Rabies with Radium.—Ancora sulla cura della rabbia coi raggi del radio e sul loro meccanismo di azione. G. Tizzoni and A. Bongiovanni.
35 La pressione del sangue nei tubercolosi. E. Bellibonl.
36 Suppurazioni dell'orecchio (of ear). A. De Biasi.
37 (No. 130.) Sopra alcune pleuriti metapneumoniche. Ghedini.
38 Elminti e febbre tifoide (helminths and typhoid). M. Vivaldi.
39 *Note cliniche all'etiologia e al decorso della tabe. G. Fratini.
40 *Contributo sperimentale alla scelta degli antisettici (choice of antiseptics). N. Federici.
41 *L'intervento chirurgico nelle peritoniti settiche diffuse. A. Montini.

28. Bivalent Serum in Treatment of Diphtheria.—A diphtheria antitoxin is produced in Italy which, it is said, not only neutralizes the toxins, but has a direct bactericidal action. Costantini reports that his experience with it has been very encouraging. In the mild cases, local applications of the serum proved sufficient without injection of the bivalent antitoxic serum. He continues the injections after all symptoms have subsided, thus hastening the final disappearance of the bacilli from the throat. When mixed with a toluized gelatin, the serum adheres to the walls of the throat and thus seems to exert a more intense local action. Costantini has seen no paralytic complications since he has been using this combination of bivalent and bactericidal serums.

29. Treatment of Croupous Pneumonia.—Gugnoni expatiates on the advantages of giving digitalis in croupous pneumonia. It aids in placing the heart in the best possible condition to cope with the infection, strengthening it to resist the toxins of the pneumonia and to overcome the obstacle of the hepatization of the lungs. He gives an infusion of 2 or 3 gm. of digitalis leaves, with water of ammonia and anise, to be taken in twenty-four hours, regardless of whether the heart seems to need it or not. If the heart action is abnormal and does not respond favorably to the influence of the digitalis, the prognosis is almost inevitably bad, although other symptoms may not indicate this at the time. He has thus treated 21 patients.

32. Abdominal Reflexes in Typhoid.—Ortali's researches on 61 typhoid patients confirm Sicard's statement last year that the abdominal reflexes are abolished during the course of typhoid fever, but reappear promptly in convalescence. The stimulus transmitted to the peripheral terminations of the sympathetic nerve in the abdominal walls exerts an inhibiting influence on the reflex center. This center is probably exhausted by the intense and constant stimulation exerted on it by the inflammatory process in the ileum. When the inflammation subsides, this center soon recuperates.

34. Treatment of Rabies with Radium.—Tizzoni's previous communication on this subject was summarized in these columns on page 228. He announced then that the radium rays have a rapid destructive action on the fixed virus of rabies in the test-tube. After two hours of exposure it loses all its virulence. The radium rays, he claims, also deprive the virus of toxicity even after it has been injected into the animal. The action of the radium, he states, was most pronounced when the virus had been injected into the eye. There were no apparent disturbances in the tissues of the eye nor in the eyesight from the exposure to radium even for a period as long as twelve hours. He asserted, further, that fixed virus submitted to the action of the radium rays becomes transformed into an effectual vaccine. He found that one drop or a fraction of a drop of this vaccine injected into the eye induced stable immunity to virus which killed the controls in twenty days. He now reports researches aiming to apply these data to man. He used 2 cg. of radium bromid, representing 100,000 radioactive units, applying the radium in a fused tube inside a mica-topped box. The box was sewed to a cap fitting over the head and orbit, with a lead saucer as a background for the box. The radium was about .5 cm. from the surface of the cornea under the closed lids. This excluded all emanations from the radium, except on the part exposed. The absence of any by-effects was so striking that he asks whether they may not be due to the emanations alone, which were excluded in his work. Exposures of twelve hours failed to induce lesions of any kind in his comprehensive experience. His tests also demonstrated that the *gamma* rays have but a minimal share in the destructive action on the fixed virus, the principal effect being from the *beta* rays. He found it possible to cure rabbits by these radium exposures when the infection dated from two, three or four days before, and even after the fifth day—that is, when the disease had passed through four-fifths of its entire course. These experiments were with fixed virus, which invariably killed the controls the seventh day after the injection. The more fulminating the disease, the shorter the period, probably, in which the treatment is liable to prove effectual. He tabulates the results of other tests which show that in the rabbits cured when the disease had passed through four-fifths of its course, the fixed virus injected under the dura of the posterior brain had diffused through the other hemisphere, and had also invaded the medulla, the part causing the most serious symptoms in the disease in man. The minimal application that saved the rabbits was eight hours of exposure when the exposures were commenced immediately after the injection. On the other hand, eighteen hours' exposure was the minimum when the interval after the injection had been three days and

a half. The brain of the rabbits treated with the radium rays acquired pronounced radio-activity. Sections of the brains exposed showed that when this radio-activity was manifest the rays had been applied the proper length of time to cure the animal. Exposures of less than these minimal applications failed to induce manifest radio-activity. He states that the dose of the rays necessary to save the animal from the effects of the injection of virulent virus can be determined photographically in the individual case. The dosage of radiation will have to be proportional to the mass of the nerve substance to be acted on and to the length of the exposures and number of radio-active unities in the rays. He calculates, therefore, that, as 100,000 unities are enough to cure a rabbit weighing from 1.2 to 1.5 kilos, with the disease already under way, under the same conditions and for the same length of exposure, a man would require sixty to eighty times as much as the rabbit; that is, from 4,000,000 to 6,000,000 radio-active units.

39. Diagnosis of Tabes.—Fratini tabulates the details of 18 cases of tabes to sustain his assertions that the Argyll-Robertson symptom is not constant nor pathognomonic of tabes. It is most constant in the patients with unmistakable syphilitic antecedents. An acute onset of tabes generally is announced by acute paraplegia, which may subside later, to be substituted by simple ataxia. The initial paraplegia may be simulated by astasia-abasia in patients with a tendency to hysteria. In such there is probably an ascending neuritis. The peripheral sensory neuron is in a state of irritation similar to that induced by intoxication with strychnin. This "strychnism," as he calls it, is responsible for the zones of hyperalgesia, for the exaggeration of the tendon reflexes, and for the tendency to tetaniform and epileptiform contractions from repeated stimulation in the zones of hyperalgesia. These phenomena should not be confounded with the spastic phenomena which are induced by lesions of the central motor tracts. The latter are associated with paresis or paralysis and with Babinski's sign, and are due to the abolition of the inhibiting action of the cortex on the spinal reflexes. The phenomena of "strychnism" are characterized, further, by the fact that they are comparatively transient and are never complicated with permanent paralyses. Knowledge of these symptoms reduces the importance of Westphal's sign. There is no single symptom that can be regarded as constant and pathognomonic of tabes. Even the lightning pains may be substituted by mild paresthesia. Tabes should be regarded as a segmented sensory neuropathy, with symptoms due to lesions of the afferent neurospinal system, associated with the Argyll-Robertson symptom and sometimes with crises.

40. Choice of Antiseptics.—Federici's conclusions are in favor of corrosive sublimate as the most effectual and constant in its action of all the antiseptics in vogue. He uses it in a .5 to 2 per thousand solution. Carbolic acid comes next, but a 3 per cent. solution is required in order to obtain as good results.

41. Operative Treatment of Diffuse Septic Peritonitis.—Montini reviews the history of this subject and reports 9 cases in which he has operated. Five of his patients recovered, and he is convinced that others might possibly have been saved if the operation had been undertaken earlier. He affirms that a well-performed laparotomy does not in itself aggravate the prognosis.

Nordiskt Medicinskt Arkiv, Stockholm.

Last indexed page 1126.

42 (XXXVIII, Internal Medicine, No. 2.) *Studien über die Pentosurie. K. Otto and af Klercker. (Concluded).
43 *Studien über chronische Nephritis mit bes. Berücksichtigung des Stickstoffumsatzes (with special regard to transformation of nitrogen). H. Ernberg. (Concluded.)
44 (XXXVII, Surgery, No. 4.) Fall von isolierter Luxation des Calcaneums. G. Ekehorn.
45 Fall von enormer Dilatation des Magens und Duodenums von congenitalem-arterio-mesenterialem Ursprung (congenital dilatation of stomach and duodenum). Id.
46 Zur Pathologie der otogenen Gehirn-Abszesse (in brain). E. Schmiegelow (Copenhagen).
47 Fall von rechts-seitigem Chylothorax infolge Zerreissung des Ductus thoracicus. P. K. Lindstrom.
48 Recherches experimentales sur la perception d'ondes lumineuses de longueur differente (light waves of different lengths). A. E. Lidstrom.
49 *Ueber Retroflexio. B. C. Vedeler.

42. Pentosuria.—Of the 16 cases of pentosuria which af Klercker has collected, only 4 were in women. The ages of the patients ranged from 18 to 65. The 2 cases he has personally encountered were in Jews, brothers. The father and another brother were diabetics. A family tendency is also evident in the total 16 cases, as 7 of the patients were related in three families. The frequent coincidence of neurasthenic symptoms deserves attention. The prognosis probably is not so grave as in case of diabetes. No specific treatment for pentosuria has yet been found. Transitional conditions between pentosuria and diabetes are known, and the slight pentosuria sometimes noted in diabetes should be studied further, although it should not be classed with genuine pentosuria. It is possible that a family tendency to diabetes may be a factor in the origin of this condition. The proportion of pentose in the urine diminishes with insufficient food, although af Klercker does not think it probable that the mother substance of the pentose in the urine is derived from the carbohydrates. Neuberg's hypothesis in regard to galactose and his conception of the pentose in the urine as "r—arabinose" deserve further study. A bibliography of 130 articles is appended, giving the titles in full. The article is in German. In conclusion, af Klercker states that when the urine, even after fermentation, reduces Fehling's solution pentosuria should be suspected. He describes a simple test for it.

43. Chronic Nephritis with Special Regard to Nitrogen Metabolism.—Ernberg's article is based on considerable clinical experience, as well as on extensive experiments on healthy persons. His study of the time of elimination of nitrogen, after a test meal containing large proportions of albumin, showed that the normal curve of elimination is an easily determined standard from which pathologic conditions show characteristic variations. He thinks that this may prove to be an important and valuable aid in the diagnosis of nephritis and of its different forms. His research further shows that a diet with much diminished albumin content, and hence minimal albumin metabolism, is of advantage under certain circumstances. A diet leading rapidly to the minimal transformations of nitrogen seems rational in case of nephritis and worth trying. His "albumin test breakfast" was 150 gm. beef (weighed raw), 50 gm. bread, 20 gm. butter and 250 c.c. milk. The urine was collected every two hours during the following eight hours. On a "nitrogen-starvation diet" less urine-making substances are generated than on any other diet yet tried in nephritis. It lightens the work of the kidneys and relieves them to an astonishing extent as the albumin metabolism becomes reduced. If the albuminuria can be regarded in certain cases as an index of the irritable condition of the kidney, then these researches establish that diminishing the albumin transformations reduces at the same time the irritability of the kidneys. There is less thirst on the "nitrogen-starvation diet," which is an advantage in certain cases. The researches reported indicate further that the elimination of residual nitrogen in the kidneys and in the blood is materially promoted by the reduction in the albumin metabolism. This suggests the possible value of the "nitrogen-starvation diet" in incipient uremic conditions. He defines this diet as one with a minimal amount of nitrogenous substance, although providing amply for energy otherwise, kept up for periods of four or five days or longer, with comparative abundance of albumin in the intervals. Such a diet might comprise bread and cakes, potato purée, spinach, porridge with cream, sugar, butter, cream, cooked fruits and lemons, averaging at least 35 calories per kilo of body weight during the twenty-four hours for a person confined to bed.

49. Retroflexion.—Twenty years ago Vedeler published a review of 3,200 cases of retroflexion. At that time it was considered absolutely abnormal, while now it is considered only relatively so. It may exist without symptoms, although these are liable to develop at any time. He regards fixation of the uterus as contrary to the laws of anatomy and physiology. Pessary treatment conflicts with modern ideas of asepsis and infection. The diseased retroflexed uterus, he thinks, should be treated according to the same principles as the diseased anteflexed organ. He found anteflexion in 64 per cent. of 7,200 women, retroversion in 20 per cent., retroflexion in 9 per cent., and anteversion in 7 per cent. He observed in 62 cases the spontaneous transformation of retroflexion into anteflexion, without morbid changes in the uterus.

GENERAL INDEX.

All reading matter in The Journal from June to December, inclusive, 1905, is indexed here. (For Current Medical Literature Index see pages 2057 to 2083.) All societies, congresses, etc., are grouped under the general subject of "Societies" at the end of the letter "S." Similarly, all "Deaths" and all "Book Notices" are indexed under those titles at the ends of the letters "D" and "B", respectively. Matter pertaining to the Association is under "Association News." With the above exceptions, all matter is indexed under the most important word of the heading that was used in The Journal. It is, therefore, well to remember that in looking up a certain subject, related words should be consulted, for example, bone, ostitis, periostitis, inflammation, etc. The letters used to explain in which department the matter indexed appeared are as follows: "E", editorial; "O", original article; "T", therapeutics; "P", pharmacology; "Ml", medicolegal; and "ab" denotes an abstract of an article that has appeared in full elsewhere.

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Boston, L. N., Text-Book of Clinical Diagnosis by Laboratory Methods, 1675
Bradford, E. H., Treatise on Orthopedic Surgery, 938
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Calot, F., Technique in Traitement de la Luxation Congenitale de la Hanche, 1673
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Clinical Methods. Guide to the Practical Study of Medicine, 1894
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Green, T. H., Pathology and Morbid Anatomy, 1675
Hall, W. S., Text-Book of Physiology, 1427
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Heineman, P. G., Laboratory Guide in Bacteriology, 1675
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Laboratory Guide in Bacteriology, 1675
Lee, A. B., Microtomist's Vade-Mecum, 1894
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Medical Record Visiting List, 1974
Microtomists' Vade-Mecum, 1894
Moore, N., Royal Medical and Chirurgical Society of London, 1426
Mracek, F., Atlas and Epitome of Diseases of Skin, 1894
Multiple Personality, an Experimental Investigation Into the Nature of Human Individuality, 649
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Rockwood, E. W., Introduction to Chemical Analysis, 478
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Sachs, B., Treatise on the Nervous Diseases of Children, 1426
Sahli, H., Treatise on Diagnostic Methods of Examination, 1673
Sandwith, F. M., Medical Diseases of Egypt, 1894
Savage, G. C., Ophthalmic Neuromyology, 1894
Schultze, O., Atlas and Text-Book of Topographic and Applied Anatomy, 478
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Simpson, W. J., Treatise on Plague, Dealing with the Historical, Epidemiology, Clinical, Therapeutic and Preventive Aspects of the Disease, 648
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System of Physiologic Therapeutics, 1103
Taylor, J., Paralysis and Other Diseases of Nervous System, 1427
Taylor, J. J., Physician's Pocket Account-Book, 1676
Technique du Traitment de la Congenitale de la Hanche, 1673
Text-Book of Clinical Diagnosis by Laboratory Methods, 1675
Text-Book of Medical Practice for Practitioners and Students, 1426
Text-Book of Physiological Chemistry, 1426
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SOCIETIES.

Abbreviations:

Acad.—Academy.
Am —American.
A.—Association.
Coll.—College.
Conf.—Conference.
Cong.—Congress.
Dist.—District.
Hosp.—Hospital.
Internat.—International.
M.—Medical, Medicine.
Nat.—National.
Phys.—Physicians
Ry.—Railway.
S.—Society.
Surg.—Surgical, Surgery, Surgeons.

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